CHINA REPORT

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INTERNATIONAL

China-US Relations: Xi-Trump Summit signals fragile truce

SPECIAL REPORT

Plateau Passages: Trade links thrive along China-Nepal border

SEA OF POSSIBILITIES

Ocean researchers are riding a wave of potential uses, from clean energy to novel drugs

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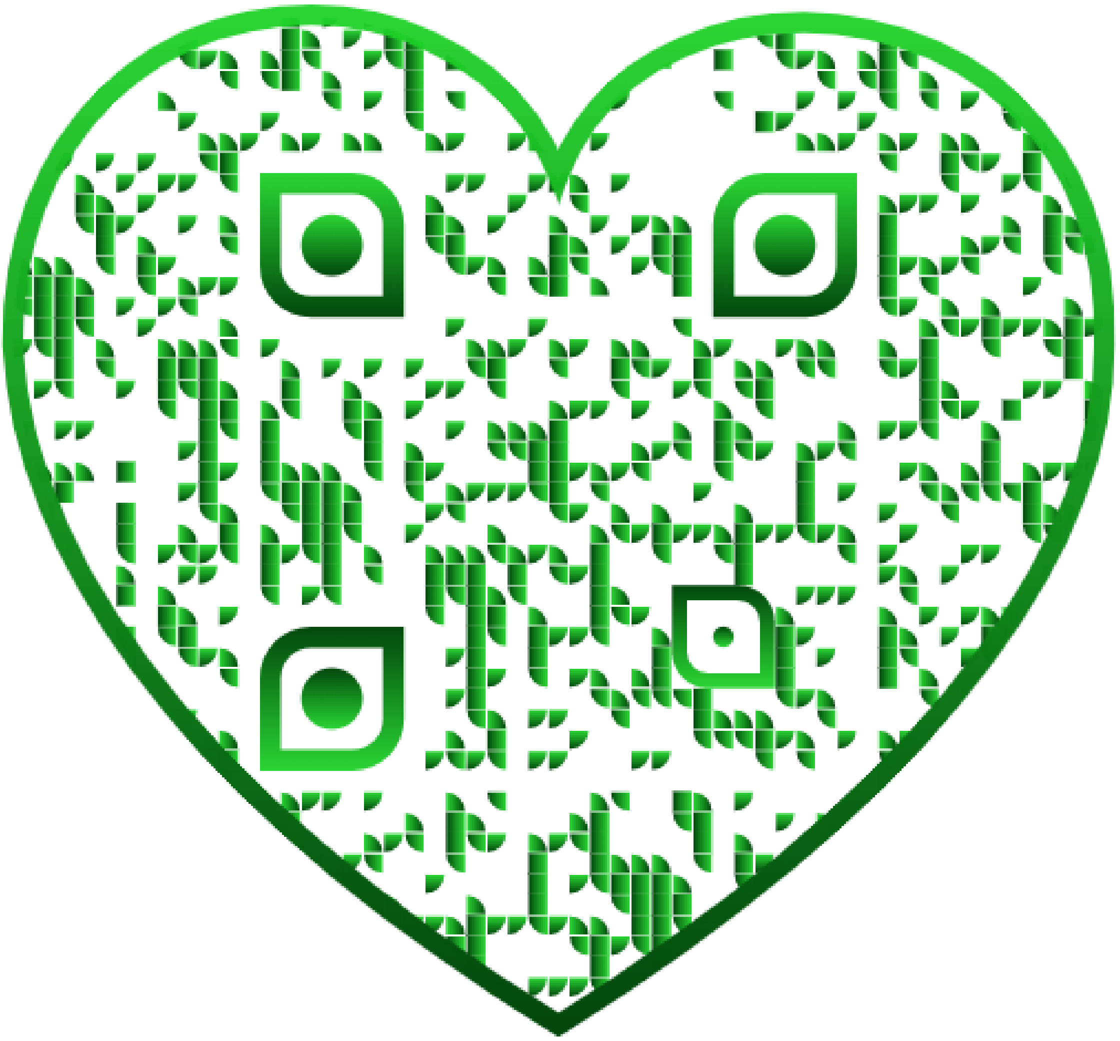

UNWTO

World Tourism Organization

Around the world tourism grows every single year. Tourism creates job opportunities, empowers communities and improves livelihoods.

Tourism is part of the economic value chain, from infrastructure and communication to food production and transport.

Tourism goes far beyond tourism alone! Delivering on its huge potential is the task of the **World Tourism Organization (UNWTO),** the UN's special agency to promote tourism's many benefits on societies and the economy.

unwto.org

Turning China's mega market into a source of global stability

On November 4, China launched a series of events called "Big Market for All: Export to China" in Shanghai, where the 8th China International Import Expo (CIIE) kicked off the day after. Both events aim to promote imports into China.

These initiatives underscore China's commitment to wider opening up and sharing its vast market with the rest of the world.

Commerce Minister Wang Wentao described market access as "the most scarce resource" in today's world and announced that the "Big Market for All" initiative will be carried out annually. It will feature over 100 events each year, with the goal of establishing China as "the best export destination."

China has ranked as the world's second-largest import market for 16 consecutive years, with goods and services imports projected to exceed US$15 trillion during the period between 2021-2025.

The 2025 CIIE has gone beyond just being a platform for procurement. Instead, it has focused on reducing institutional transaction costs to promote regional trade, encompassing mutual recognition of standards, certification acceleration and facilitation of cross-border payments. These efforts aim to develop China not just as a market for consumption, but as a platform for inclusion, particularly for developing nations and small- and medium-sized enterprises (SMEs).

> These efforts aim to develop China not just as a market for consumption, but as a platform for inclusion, particularly for developing nations and small- and medium-sized enterprises

For a Southeast Asian SME seeking to enter a developed market, for example, the traditional process of certification and distribution could take years. However, with the CIIE's integrated mechanisms, the duration of the process can be shortened to within just one year.

In addition, the Chinese market serves both as a laboratory and a battleground for product development. Given the diversity and sheer size of the Chinese market, Chinese consumers can be both demanding and tolerant, value-conscious yet willing to pay for innovation. This is why more and more multinational companies are adopting an "in China, for the world" approach to research and development. They have found that if a product can prove itself in China, it is unlikely to face major hurdles in global markets.

As the world's second-largest import market, the predictable demand from the Chinese market can help stabilise global supply chains. As a fast-evolving application market for new technologies, it help global tech companies to accelerate technology diffusion and drive down costs. As an open platform for developing economies, it lowers the barriers for more less-developed countries to participate in globalisation. These features form the unique value of the Chinese market in today's global economic landscape.

China will redefine its role in global trade from an export powerhouse to a market that actively absorbs, tests and elevates global products and standards. As China's middle-income group expands and green and digital consumption gathers pace, there will be more and more opportunities within the Chinese market.

According to the recently released recommendations for formulating the 15th Five-Year Plan (2026-2030), a more balanced development of imports and exports continues to be among China policy priorities. The question is not whether China will open wider, but how effectively it can align higher-level openness with rising demand for quality, transparency and innovation. If China succeeds, its vast domestic market will not only anchor its own development but also serve as a stabilising force for a world economy navigating deep uncertainty.★

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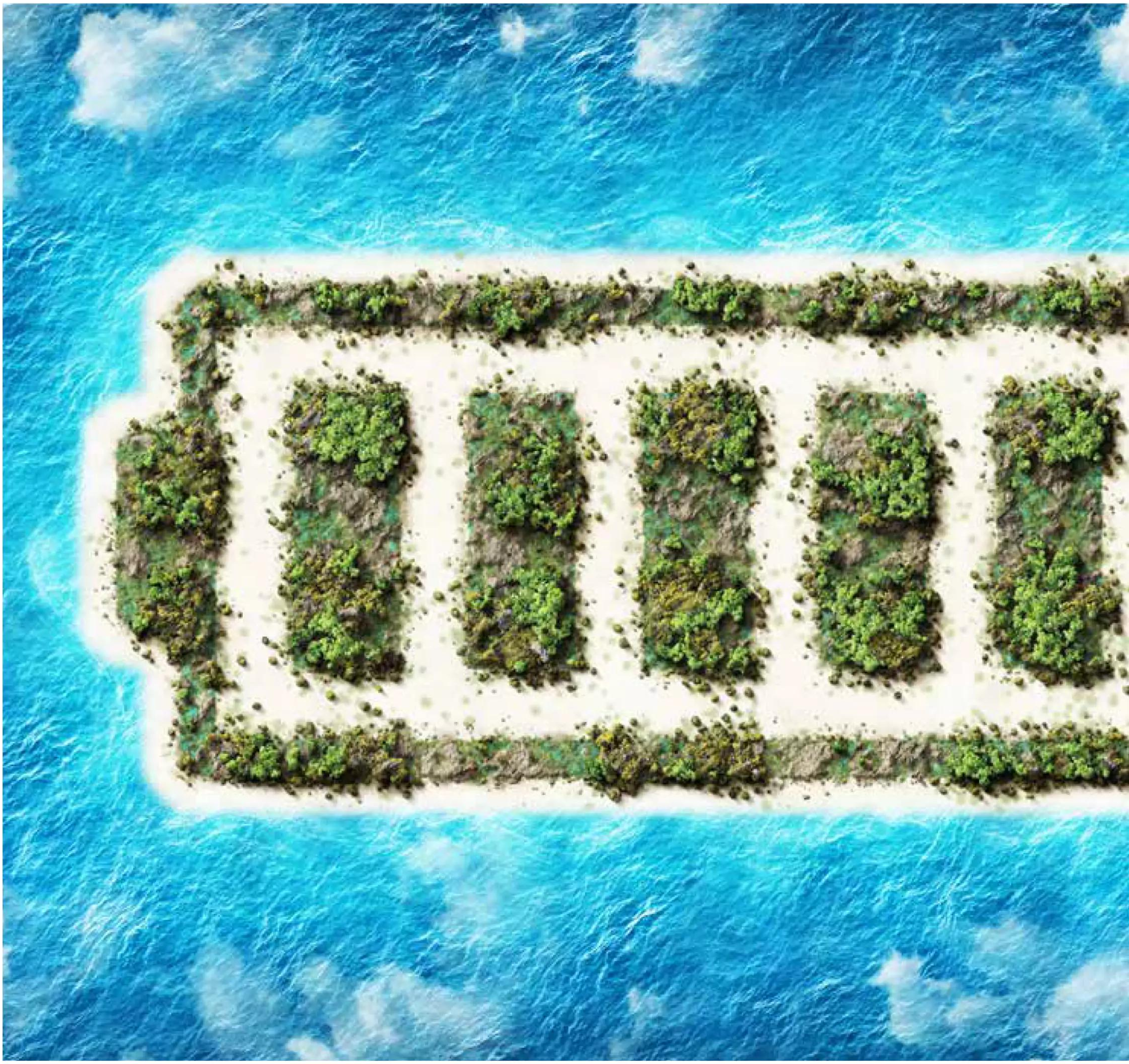

From Blue to Green

ChinaReport explores the swell in tidal current energy and marine-based drugs offering cleaner, more sustainable solutions for health and sustainability

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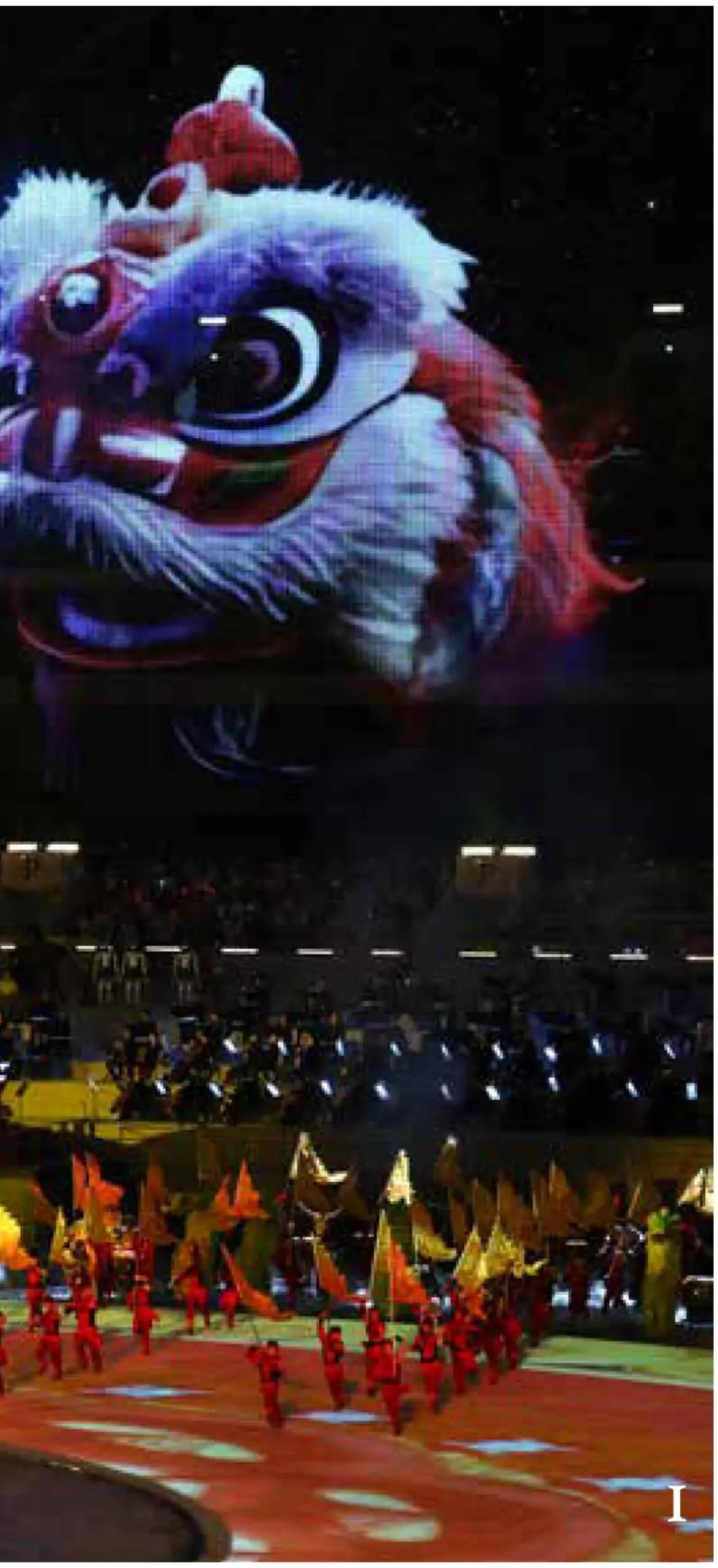

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1. The opening ceremony of the 15th National Games of China is held at the Guangdong Olympic Sports Centre, Guangzhou, Guangdong Province, November 9, 2025 (Photo by VCG)

2. Two mascots compete in a dance battle in front of excited spectators during the men's basketball final at the 15th National Games of China, Dongguan, Guangdong Province, November 12, 2025 (Photo by VCG)

3. Taikonaut crews from the Shenzhou 20 and 21 missions to China's Tiangong space station enjoy the first ever space barbecue, eating chicken wings and steaks cooked on the first convection oven brought to the space station by the the Shenzhou 21 crew on November 3, 2025. The Shenzhou 20 crew returned safely to Earth on November 14. (Photo by VCG)

4. Bottles of Caves Maitre Red Wine from the Bordeaux region of France are displayed at the 8th China International Import Expo, Shanghai, November 8, 2025 (Photo by IC)

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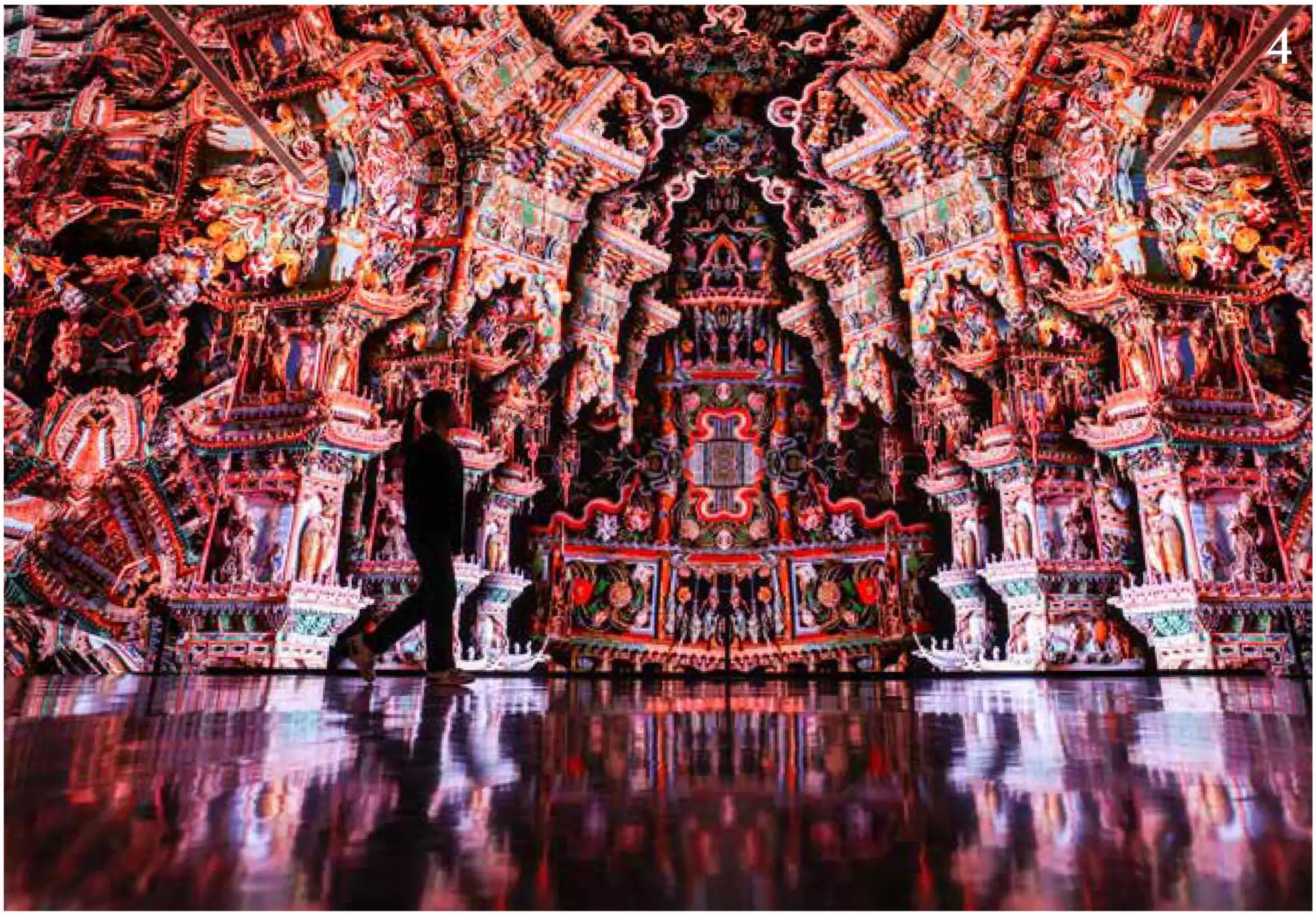

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1. Costumed guests take selfies at a Halloween party at a cultural and art complex, previously a boat building factory, Ningbo, Zhejiang Province, November 1, 2025 (Photo by VCG)

2. A young foreign tourist tries the traditional game of shuttlecock kicking at the Bell and Drum Tower complex, Beijing, November 11, 2025 (Photo by VCG)

3. A bearded reedling rests between two reeds at Longfeng Wetland Nature Reserve, Daqing, Heilongjiang Province, October 25, 2025 (Photo by VCG)

4. A digital exhibition themed on ancient buildings from Shanxi Province that provided the backdrop for blockbuster video game *Black Myth: Wukong* is held in Taiyuan, capital of the province, October 31, 2025 (Photo by VCG)

5. An aerial view from a drone shows undulating purple vegetation in Tangshan Quarry Park, Nanjing, capital of Jiangsu Province, October 17, 2025 (Photo by CNS)

Yangtze River Ecology Improves after Fishing Ban

China Newsweek October 27, 2025

Biodiversity has substantially improved in the main stream and tributaries of the Yangtze River where a 10-year fishing moratorium is almost half-way through since it was introduced in 2021. Between 2021 and 2024, the number of native fish species in the catchment increased by 36 to 344. Conservation efforts have seen a rebound in the population of the Yangtze finless porpoise since 2003 to around 1,200 individuals. The only top-level predator is seen as a barometer of the waterways' ecological condition. Under tightened supervision, riverside factories and fishers were given subsidies to relocate. For five years in a row, water quality in the Yangtze mainstreams has greatly improved. Although biodiversity recovery remains ecologically and financially challenging, and rebuilding the ecological system during the next five years will be even tougher, experts believe there are still ways to achieve harmonious coexistence between people and river species.

China Progresses on UN Sustainable Development Goals

China Sustainability Tribune September 1, 2025

Although the world has failed to reach 18 percent of the sustainable development goals (SDGs) set 10 years ago when the UN launched the 2030 Agenda for Sustainable Development, China's SDG ranking has risen by 19 spots to 49. More young Chinese are paying attention to climate change and are adopting low-carbon lifestyles. There is great demand for sustainable cities and communities in China. Among Chinese enterprises, reporting on environmental, social and governance (ESG) goals will play an increasingly vital role in green transitions, extending from domestic supply chains to global markets, where one-third of investors care about company sustainability. Supported by AI and big data, China's food supply industry is undergoing green and low-carbon transitions, although many firms are not accustomed to making ESG reports. While more than half of respondents from about 20 countries in Deloitte's latest survey admit they have experienced extreme weather, experts warned that timing is crucial to fulfil the SDGs for a sustainable future.

Emotional Consumption Transforms Retail Market

Yi Magazine October 30, 2025

Although the consumption market outlook is often described as gloomy, trendy toymaker Pop Mart and gold seller Laopu Gold saw revenues surge by more than 200 percent in the first half of 2025. An *Yi Magazine* survey of 4,113 mostly urban respondents aged 20-35 found that emotional value is essential to consumption behaviour. Driven by scarcity marketing tactics as habits shift from luxury goods to concerts, hiking and camping, today's consumers are more willing to explore new experiences. However, trendsetters' habits can be transient, as athleisure brand Lululemon has learned to its cost. The survey also found that with consistent quality and targetted marketing strategies, established brands like Coca-Cola and Estée Lauder can still secure high sales. But experts warned that consumption habits will continue to evolve as lifestyles and priorities change.

Running Events Power City Promotions, Sports Industries

Oriental Outlook
October 16, 2025

Running races, including marathons, half-marathons and other distance events from 5-30 kilometres, have gained enormous popularity since 2014 when the central government devolved the approval process to the provinces. In 2024, there were 749 race events, attracting more than 7 million registrations. With round-trip air tickets, catering and accommodation, a participant might spend at least 5,000 yuan (US$702) to attend one event. Cities are charting exciting courses that pass major sites and offering cultural events. The zeal for running has upped the price corporate sponsors will pay to back races, perhaps as high as millions of yuan per event. Sports brands like Li-Ning and Adidas are seeing their running shoes fly off the shelves. Experts point out that road running is not only an athletic competition, but also a touchstone for a city's capability to organise a safe, smooth and convenient sports event.

Field Research Liberates Young Chinese from Fixed Routines

South Reviews
November 3, 2025

Inspired by a host of opportunities to conduct field studies offered by *South Reviews* magazine for the past two decades, many young Chinese students from 700 higher educational institutions have seized the chance to leave their classrooms to explore social issues firsthand. From social disparities caused by urbanisation to emotional stress amid social transformation, generations of college students have learned how to think independently and critically based on their observations. Covering a wide range of activities such as teaching at rural schools or investigating the electronic waste recycling, their research has confronted obstacles that are rarely seen in the classroom. However, while seeking solutions, these students have become more flexible and resilient when they are no longer spoon-fed with fixed answers. Experts believe every young generation can excel in one way or another so long as they grow up with a strong sense of duties and independence.

"After several decades of development, the biggest challenges for China's economy have shifted to insufficient and weak demand. This requires us to change how resources are allocated and how fiscal spending is structured, and putting families, rather than production, at the centre. In other words, we have to invest more in people."

Zhang Jun, dean of the School of Economics, Fudan University, in an interview with *Hongxing News* in Chengdu, Sichuan Province, following the release of China's 15th Five-Year Plan (2026-2030)

"We do need significant public policy intervention to address inequality. Although globalisation and the AI revolution may bring enormous benefits, the key lies in ensuring that these gains are distributed fairly across all social groups, especially those disadvantaged by this revolution."

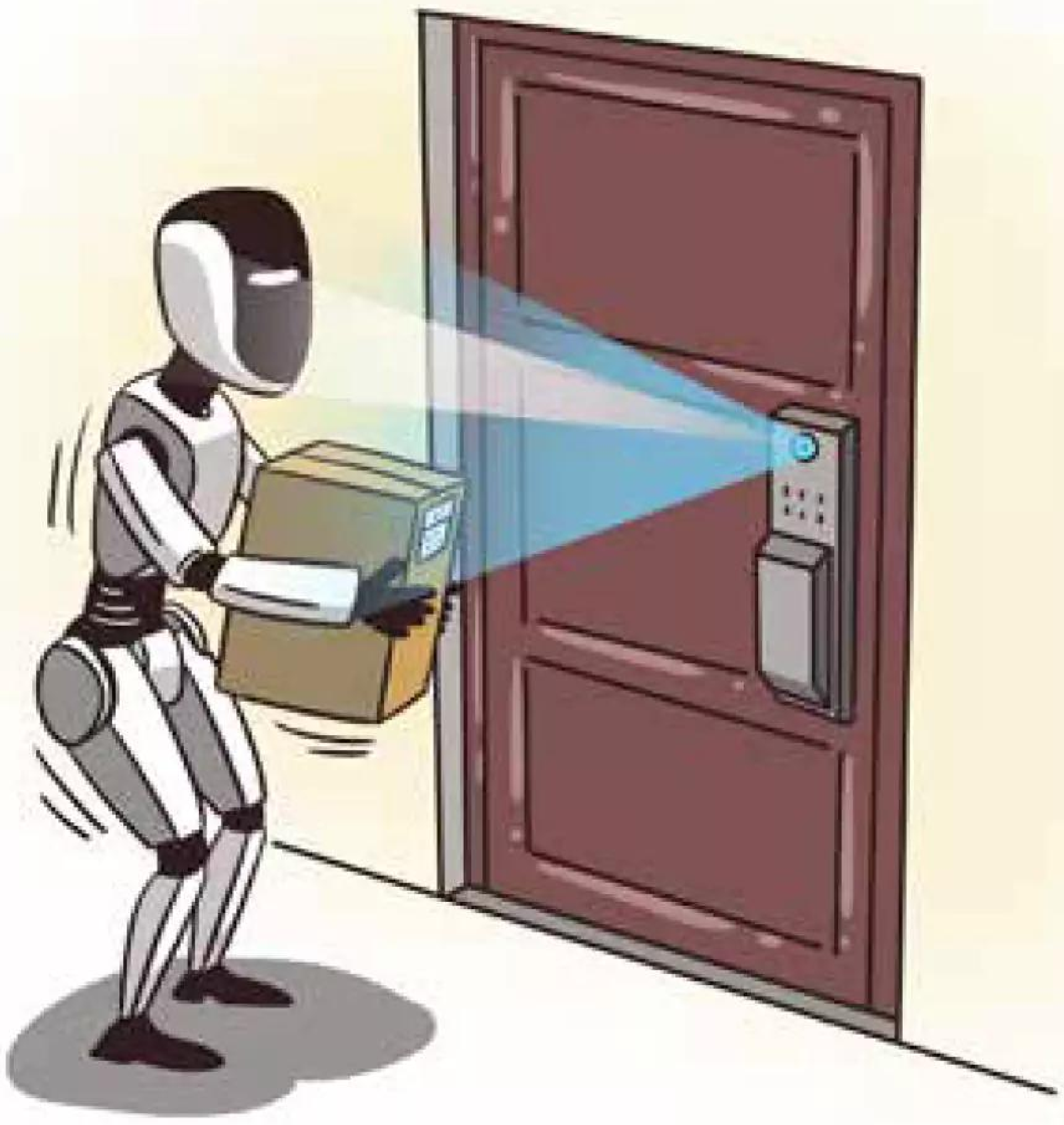
Huang Yiping, director of the National School of Development, Peking University, at a sub-forum on the AI revolution during the 2025 Bund Summit held in Shanghai on October 24

"For the US, the right policy approach is to upgrade its infrastructure and improve income distribution so that ordinary people and blue-collar workers can benefit more from global supply chains. The US leadership should not shift blame for its policy failures onto China. The US must take responsibility. China should not be the scapegoat."

Yu Yongding, an academic member of the Chinese Academy of Social Sciences, at a sub-forum on tariff policies at the 2025 Bund Summit held in Shanghai on October 25

"The global auto market is valued at about US$10 trillion, which sees 90 million new vehicles produced each year. The robot market, however, could reach US$20 trillion, though it may take 10-20 years to get there. By then, there might be 200 million or more humanoid robots produced."

He Xiaopeng, CEO of Xpeng Auto, speaking with media at a launch event for the company's new-generation humanoid robot "Iron" on November 5 in Guangzhou, Guangdong Province



"Many families now use smart locks, and we believe that in the near future, robots will be able to safely open doors with customer authorisation and deliver their packages directly into their homes."

Liu Qiangdong, founder of e-commerce platform JD.com, at the 2025 World Internet Conference Wuzhen Summit held from November 6-9, announcing that JD will establish the world's first fully unmanned delivery station by April 2026 and is partnering with numerous robotics companies

"The idea that there is no such thing as bad publicity has become all too common in today's online content ecosystem. Some content creators deliberately provoke controversy with extreme or one-sided remarks, triggering gender or regional conflicts to spark outrage, draw attention and chase clout. This not only deepens social division but also fuels hostility and polarisation across the internet.

Yu Han, special commentator for news portal The Paper, commenting on the deleting of popular vlogger Hu Chenfeng's accounts on all social media platforms in September for labelling Apple users as "elites" and Android users as people at the bottom of society

"Only when the social security system can cover a wider range of workers will flexible employment truly serve as a reservoir for jobs and build a foundation of social stability in an ever-moving China."

Weng Yi, senior researcher at the Digital Economy Think Tank in Beijing, writing for *Caixin* in early November about the importance of providing social insurance for millions of delivery riders

"Milk tea has strong cultural symbolism as it goes global. Compared with vehicles or high-tech products, it's a lighter export with lower barriers and less regulation. And unlike films or TV, milk tea doesn't cause disparity in values or cultural conflicts."

Zhang Xuan, a consumer product analyst, discussing the expansion of Chinese milk tea brands amid a saturated domestic market with news portal guancha.cn

China Announces Huge Progress in Green Transition Ahead of COP30

China has made notable progress in its green and low-carbon energy transition and has established the world's most systematic and comprehensive policy framework for carbon reduction, according to a new white paper titled "Carbon Peaking and Carbon Neutrality: China's Plans and Solutions" released by China's State Council on November 8, 2025, ahead of the COP30 global climate conference in Belém, Brazil, which started two days later.

In 2020, the Chinese government issued its dual carbon goals – to peak carbon emissions before 2030 and achieve carbon neutrality before 2060. The white paper presents an overview of progress in the last five years, and shares China's approaches, actions and experience.

To realise the carbon targets, the Chinese government has formulated a "1+N" policy framework, under which "1" stands for the guiding principles and the two top-level documents on reaching carbon targets, while "N" encompasses action plans in key sectors, industries and administrative districts.

Thanks to the policy framework with clear action plans and roadmap, China has achieved new energy development on the largest scale and at the fastest speed in the world, with the consumption of non-fossil energy increasing from 16 percent in 2020 to 19.8 percent in 2024.

By the end of August 2025, China's installed capacity of wind and photovoltaic power had surpassed 1,690 gigawatts (GW), triple that of 2020 and accounting for about 80 percent of the newly installed power generation capacity since 2020. The share of wind and photovoltaic power in China's total power consumption is steadily increasing at an average annual rate of 2.2 percentage points.

China is also making active efforts to develop hydropower, with regular installed hydropower capacity at around 380 GW and that of pumped-storage hydropower stations at about 62.37 GW by the end of August 2025,

China is pursing robust, safe and orderly development of nuclear power. By the end of August 2025, there were 112 nuclear power units in operation, under construction or approved for construction, which when finished, will give a combined installed capacity of 125 GW, the biggest in the world.

By the end of 2024, China led the world in the annual production capacity of green hydrogen energy at over 150,000 tons. By the end of August 2025, China's installed capacity of biomass power generation had reached 46.88 GW, a 60 percent increase over 2020.

China has also accelerated clean and efficient utilisation of fossil energy, reducing the amount of fossil energy consumption from 84 percent in 2020 to 80.2 percent in 2024.

China's efforts and achievements in carbon reduction are of great significance amid the global climate crisis where scientists warn of the danger of missing mitigation targets. The UN Environment Programme's latest Emissions Gap Report released on November 4, 2025 warns that "nations remain far from meeting the Paris Agreement goal to limit warming to well-below 2 C, while pursuing efforts to stay below 1.5 C."

"Reductions to annual emissions of 35 percent and 55 percent, compared with 2019 levels, are needed in 2035 to align with the Paris Agreement 2 C and 1.5 C pathways, respectively. Given the size of the cuts needed, the short time available to deliver them and a challenging political climate, a higher exceedance of 1.5 C will happen, very likely within the next decade," the report says.

In September 2025, two months before COP30 was due to start, China published its 2035 Nationally Determined Contributions (NDCs), which pledges to reduce net emissions of greenhouse gases in all economic sectors by 7-10 percent by 2035 from the peak figure, with an absolute emission cut of 1-1.5 billion tons of carbon dioxide equivalent.

China, the white paper says, is now charting a new course for global climate governance by engaging in and leading global climate governance, promoting green development under the Belt and Road Initiative and increasing international cooperation on green and low-carbon development.

"Looking forward, China stands ready to work with the international community to advance eco-environmental conservation, promote green development, address global climate challenges, protect the green Earth, and secure a cleaner and more beautiful world," the white paper concludes.

'Moustronauts' Return Safely from Space

Four mice, two males and two females, returned to Earth safe and well after a five-day stay in China's Tiangong space station, a new milestone for China's space exploration involving live rodent mammals.

Delivered to the orbiting space station on a cargo spacecraft on November 1, the four black mice, which are believed to be able to better adapt to space conditions physically than white mice, provided Chinese scientists with valuable data about how mice respond and adapt to weightlessness in an enclosed space.

The four mice are now undergoing follow-up experiments with another four mice in a control group. According to Li Tianda, an associate researcher at the Institute of Zoology, Chinese Academy of Sciences in charge of the mice experiments, they aim to establish a full process for in-orbit scientific experiments related to mammals and test key technologies on raising and doing experiments on mice in space.

Annual Commemoration Day of Taiwan's Restoration Set on October 25

China's 14th National People's Congress (NPC), the country's highest legislative body, announced on October 24 that it is designating October 25 as the annual Commemoration Day of Taiwan's Restoration.

Taiwan and the Penghu Islands were occupied by Japan in 1895 after the Qing Dynasty (1644-1911) was defeated in the First Sino-Japanese War. On October 25, 1945, a ceremony to accept Japan's surrender in the Taiwan Province of the China war theatre of the allied powers was held in Taipei, signalling that Taiwan and the Penghu Islands have returned to China's sovereign jurisdiction.

"The restoration of Taiwan is an important outcome of the War of Resistance against Japan and compelling proof of the Chinese government's recovery of sovereignty over Taiwan," read the decision made at the NPC's latest five-day session, according to a report on the central government's website.

Shen Chunyao, director of the NPC Standing Committee's Legislative Affairs Commission, said at the session that establishing the commemoration day and holding commemorative activities at the national level will help honour the indisputable fact that Taiwan is an inalienable part of China, consolidate the international community's commitment to the one-China principle, urge compatriots on both sides of the Strait to inherit and promote the spirit forged in the War of Resistance, and motivate all Chinese to strive together for national reunification and national rejuvenation.

AI to Penetrate Deeper into All Sectors

Artificial intelligence (AI) will transition from isolated applications to powering a profound transformation across all sectors in China, according to the China Internet Development Report 2025.

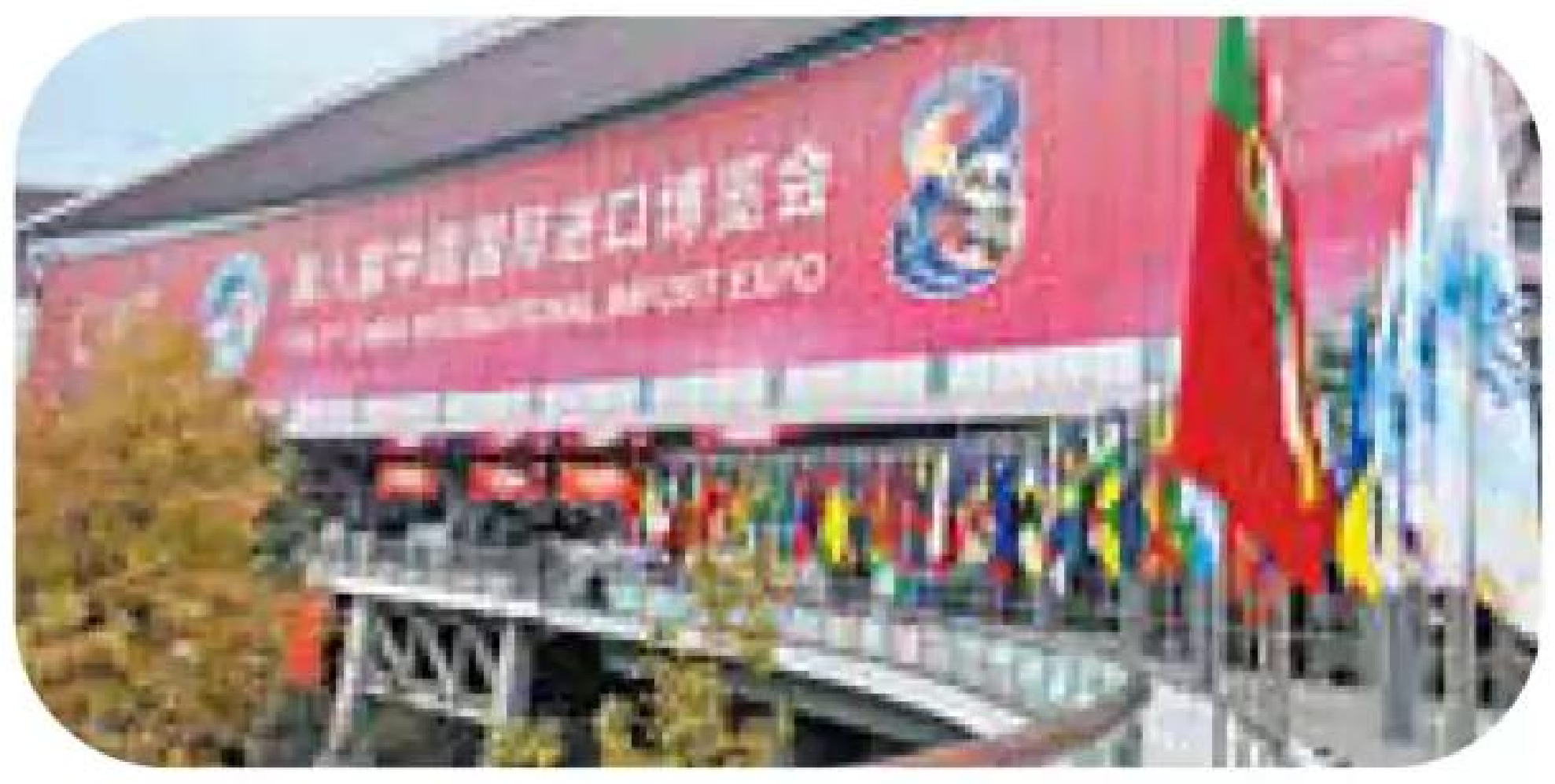
The report was released by the Chinese Academy of Cyberspace Studies at the World Internet Conference Summit held in Wuzhen, Zhejiang Province, from November 6-9.

The report summarises China's achievements in information infrastructure upgrading, the digital economy, and the application of advanced technologies like AI, quantum computing and cyber governance. Along with the fast iteration of technologies and constant expansion of applications in various industries, AI has transformed from a concept to mass application, with large models shifting from being "training oriented" to "reasoning oriented."

According to the report, China has become the biggest holder of AI-related patents, some 60 percent of the world's total. At the end of June 2025, China had 1.123 billion internet users, 79.7 percent of the country's total population.

The report forms one section of the World Internet Conference 2025 Blue Book. The other part, titled "World Internet Development Report 2025," said that AI technologies are developing towards multimode models and penetrating quickly into industries like manufacturing, logistics, medical and elder care, although this has brought bigger challenges to global governance of cyberspace.

International Import Expo Sees Record Deals, New Opportunities



The eighth China International Import Expo 2025 was held in Shanghai from November 5-10, with the value of intended deals adding up to US$83.49 billion, a record high and a 4.4 percent growth compared with the 2024 expo.

The expo, which covered an area of 367,000 square metres, attracted 4,108 enterprises and organisations from 155 countries and regions, including 290 Fortune Global 500 companies. Nearly 200 overseas companies and institutions have attended all eight annual expos since 2018, becoming regulars, according to Ministry of Foreign Affairs spokesperson Lin Jian. US enterprises have ranked top in combined floor space for seven straight years.

The 2025 expo received a cumulative 922,000 visits, 8.2 percent up on the previous year.

The expo saw 461 new technologies, services and products on show, half of which were making their debuts. AI, digital services and green-energy products were particular highlights. The China Hall displayed lunar soil samples, 6G application scenarios and brain-computer interface technologies.

Extension of Visa-free Policy Boosts Tourism

China's Foreign Ministry announced a one-year extension to its visa-free entry policy to December 31, 2026, and added Sweden to the list, bringing the number of eligible countries to 48 by November 10. The scheme was due to expire at the end of 2025.

Travellers from countries on the list can stay for up to 30 days for tourism, family reunion and some business activities. Separately, nationals of 55 countries transiting the Chinese mainland to a third destination can visit visa-free for up to 10 days.

China's visa-free policies have greatly boosted cross-border travel. According to the 2024-2025 report on inbound tourism released by the China Tourism Academy in March, 2025, China received 131.9 million cross-border travellers in 2024, 61 percent more than in 2023, helping the inbound tourism market to recover to 90 percent of the pre-pandemic 2019 level.

In the previous three quarters of 2025, foreign nationals made 7.246 million visa-free visits to China, a 48.3 percent increase year-on-year, accounting for 72.2 percent of all entries made by foreign nationals, according to the National Immigration Administration.

Duty-free shopping rules were also adjusted on November 4. A new government guideline encourages duty-free shops to stock high-quality domestic products and adds cellphone models, micro-drones, sports and healthcare products, and pet food to the product categories for duty-free shops.

Are Families Failing Teens? Controvsersial Book Reassesses Youth Mental Health Crisis in China

Are Chinese parents silently driving their children to despair? A new book suggests that behind the smiles and discipline, many teens are quietly suffering.

In *Let There Be Light,* author Liang Hong, a professor of Chinese literature at the Renmin University of China in Beijing, explores the minds of teenagers suffering from depression and other mental health issues. However, it was Liang's claim that teens are often "besieged" by adults, especially their parents, which has struck a nerve with the public.

Compiling three years of interviews with teenagers, their families, educators and medical experts across China, the book delves into family trauma, such as the absence of fathers both physically and emotionally, and the lack of effective, equal and honest communication.

Liang is best known for her award-winning *Liangzhuang Village* trilogy, which portrays a changing rural China through the lens of a small town.

According to the Report on National Mental Health Development in China (2023-2024), 30.28 percent of depression patients are under 18. The prevalence of depression among students is estimated at 10 percent in primary schools, 30 percent in middle schools and 40 percent in high schools.

Let There Be Light has sparked online discussions about parenting and the influence of the "family of origin," a concept pioneered by the American therapist Virginia Satir. In therapy, a person's "family of origin" refers to the household that shaped their early experiences, emotional patterns and interpersonal expectations.

On Chinese social media, this term has become widely discussed, with many users sharing personal stories of family-induced trauma during adolescence. Many argue that improper parenting is the main cause of teenagers' mental health problems.

However, some readers note that Liang primarily attributes teenage mental health issues to parenting, while giving less attention to broader socio-economic factors, especially China's highly competitive, exam-oriented education system and the pervasive "rat-race" culture in schools and society.

Critics also observe that blaming one's "family of origin" has become a trend on Chinese social media. Many young people tend to hold their parents responsible for all life's challenges, whether psychological issues, academic performance or difficulties in job seeking and marriage.

Netizen Comments:

- "The popular criticism of the 'family of origin' on Chinese social media has oversimplified the complex causes of children's struggles into a binary opposition between parents and children. It reduces their trauma to micro-level family issues with their parents while neglecting broader political, economic, social and cultural factors."
- "There are no perfect parents, and no perfect children either. Parents should let go of their perfectionist anxieties and learn to see their children as they truly are, instead of always expecting them to meet unrealistic 'better' standards."
- "The reason why many young people resent their families is not because their parents don't have money and social resources. What people really hate is their parents are anxious, vain, selfish and not willing to adapt to the times yet insist on imposing their narrow and outdated beliefs on their children."

Source: Zhihu

Media Comments:

Zhou Xueguang, professor of sociology, Stanford University: "All of society has become a 'rat race' machine, one that involves schools, teachers, parents and students. Many children have been reduced to victims of this machine. It reminds me of the quote from Lu Xun (modern Chinese writer, 1881-1936): 'Save the children.' If Lu Xun once called for saving children from the repressive ethics of feudal society a century ago, then today we must save them from the frenzied chariot of meritocracy, pulled by unbridled wild horses.

Source: The Paper

Xie Bing, psychologist, former Party secretary of the Shanghai Mental Health Centre: "It is actually an 'abnormal' idea to expect every adolescent to be 'normal,' because puberty is naturally a turbulent stage of life. It is absolutely right to pay attention to teenagers' mental health. But are we becoming overly anxious about it? If you treat teenagers as if they are abnormal, you will never be able to interact with them normally. We need to be more tolerant of different kinds of teenagers. It would be terrible if everyone started believing that our whole society is sick."

Source: Liang's book release event on September 14 in Shanghai

Peng Kaiping, professor at the Department of Psychological and Cognitive Sciences, Tsinghua University: "It seems that the majority of today's problems are being attributed to parents. But are such judgements and observations accurate? The impact of the family of origin on children is indeed very profound, yet it must be unfair to attribute all teenage problems to their families. The family of origin can influence a person's life, but it cannot predict or determine their future."

Source: Liang's book release event on September 23

Viral 'Wild Child' Incident Triggers Debate on Natural Parenting

A naked three-year-old crawling on all fours at a highway rest area has reignited China's long-running debate over unconventional "natural parenting" and how much control parents have in raising and educating their children.

Video of the toddler surfaced on October 15, showing him behaving like a dog and picking up food from the ground with his mouth at the rest area in Ya'an, Sichuan Province. Two adults, later found to be the boy's parents, stood nearby while tending to their one-year-old. Witnesses at the scene suspected child abuse or kidnapping and called the police.

Following an investigation, authorities confirmed in November that the family is from Nanjing County in southwestern Yunnan Province. Both parents, who are university educated, claimed they were practicing "natural parenting," a method they say aims to "respect children's nature." The boy, they explained, loved imitating the family's pet dog and preferred to be naked, behaviour they did not attempt to correct. Authorities reported no evidence of abuse.

The incident, which social media has dubbed "Yunnan wild child," raised a huge wave of public concern over child welfare. Many netizens condemned the parents for depriving the boy of dignity and normal social development.

In China, however, many families have embraced forms of "natural parenting," often linked to homeschooling, something that is not legally recognised in China. These parents argue that keeping children out of the exam-driven school system can preserve curiosity, creativity and a closer connection to nature. The model appeals particularly to those searching for alternatives to China's highly competitive education system.

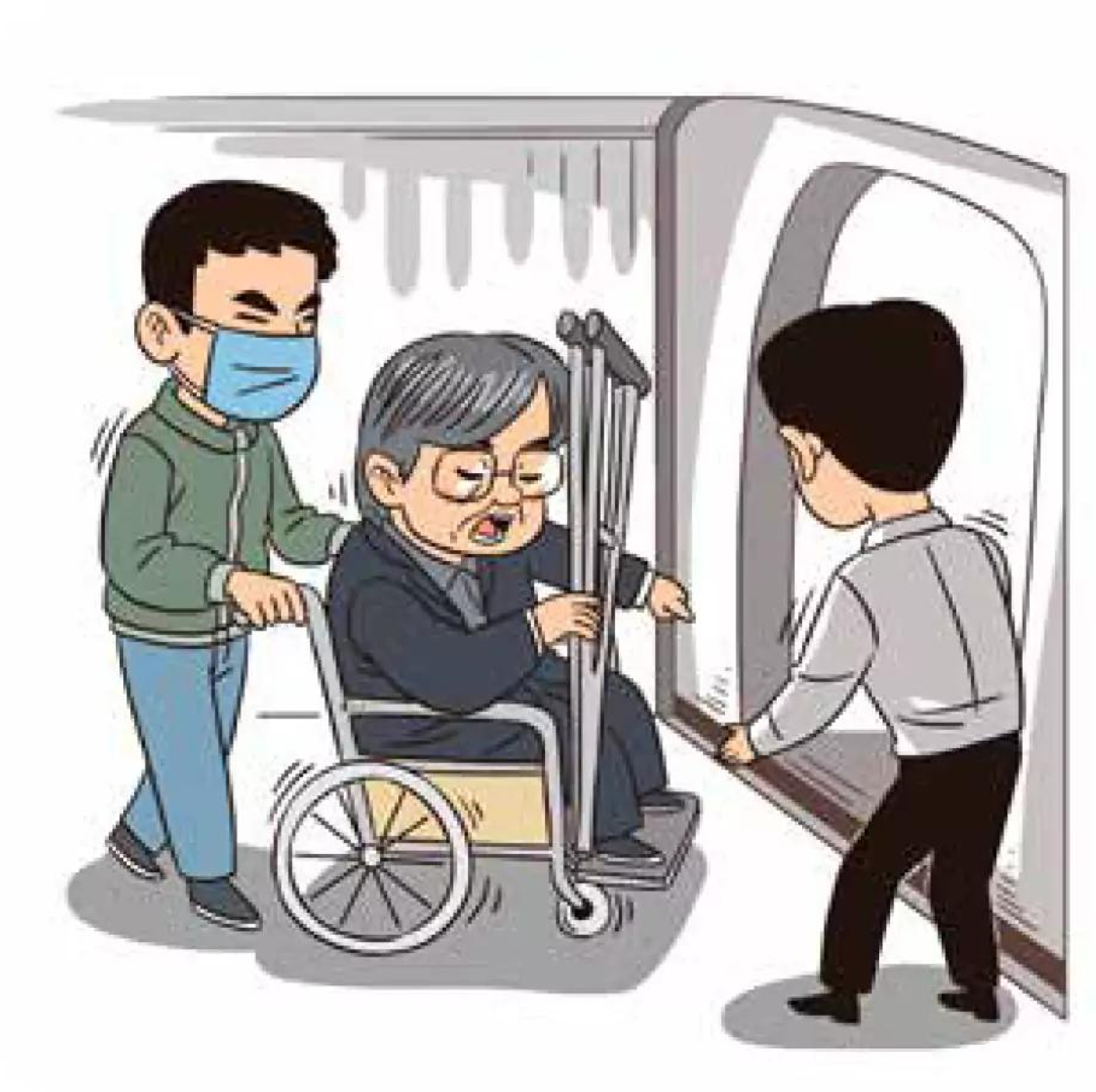
INFLUENCER

Zheng Zhihua

Taiwanese singer Zheng Zhihua, best known for his 1990s hits "Sailor" and "Star Lighting," posted a complaint on Sina Weibo on October 25, accusing the Shenzhen airport of being "inhumane to disabled people." Zheng, who has used a wheelchair since contracting polio at 2 years old, claimed that a 25-centimetre gap between the lift platform and the aircraft door at Shenzhen Baoan International Airport in Guangdong Province left him no choice but to "roll and crawl into the plane." He also criticised the lift-platform driver for failing to assist him.

The post quickly went viral. Some netizens, however, accused Zheng of exaggeration after CCTV footage showed he was assisted by a ground staff member and a crew member. Many disabled netizens shared their own difficulties navigating public facilities, from airports and trains to subways and public toilets.

Shenzhen Baoan issued an apology within nine hours, promising improvements to its accessibility measures. On October 27, Zheng apologised for using "excessively dramatic wording," explaining that his goal was to raise awareness about accessibility issues.



According to the National Bureau of Statistics, China has 87 million people with physical disabilities. The incident has directed public attention to the lack of barrier-free infrastructure across the country, prompting calls from experts, media and the public for concrete improvements and greater empathy towards people with disabilities.

More Young Chinese Are Preparing Wills as Attitudes Towards Death Shift

In China, death has traditionally been a taboo subject. Yet a growing number of young Chinese are now openly planning their last wills and testaments, approaching life's final questions with unprecedented rationality.

According to a 2024 white paper from the China Will Registration Centre, the number of people registering wills under age 30 has increased 12-fold in seven years. The youngest person to register a will was only 17. Beyond traditional property, savings and vehicles, they are increasingly including digital assets, pet trusts and complex insurance arrangements. One Gen-Z woman even willed for her ashes to be turned into a 0.3-carat sapphire to be kept by her closest friend, according to a November 10 article in *Ban Yue Tan*, a bi-weekly magazine under the Xinhua News Agency.

Chen Kai, director of the China Will Registration Centre, told *Ban Yue Tan* that will-making has become a form of "life-and-death education" for young people. By confronting death directly, he said, they gain a deeper understanding of the meaning and value of life.

Xi-Trump Meeting

An 'Inevitable Peace'?

President Xi and President Trump's meeting in South Korea suggests that both countries are exploring how to manage their differences and prevent their rivalry from escalating

By Yu Xiaodong

On October 30, Chinese President Xi Jinping met with US President Donald Trump in Busan, South Korea, for about 90 minutes. Held on the sidelines of the 32nd APEC Economic Leaders' Meeting, it marked the first face-to-face meeting between the two leaders since Trump returned to the White House. The last meeting between them was during Trump's first presidency in 2019 during the G20 Summit in Osaka, Japan.

The meeting is the latest in the cycle of confrontation and detente between the world's two largest economies.

While both sides only agreed to a temporary trade war truce without signing a joint statement or inking deals, many analysts believe that the meeting marks a new phase for the China-US relationship.

De-escalation

The two leaders previously had a phone call in September. It followed a high-level talk in Madrid, Spain between

Chinese President Xi Jinping meets with US President Donald Trump in Busan, South Korea, October 30, 2025 (Photo by Xinhua)

China and US commerce officials, which many had hoped would result in a lasting truce. However, the US soon launched a spate of new trade control measures against China, including expanding the US Entity List rules that subjected thousands more of Chinese companies to export controls and high port fees on ships linked to China.

China responded with its own expanded toolkit, retaliating with a range of countermeasures that mirror many of the US's actions, including tightening export controls on rare earths and imposing reciprocal port fees to ships linked to the US. As China has a dominant position in the rare earths industry, especially in the processing of rare earths, its export controls have far-reaching consequences for US tech industries.

Right after the meeting between Xi and Trump, the two countries announced a roll-back of trade measures after officials reached agreements during talks in Kuala Lumpur, Malaysia on October 25 and 26. Both countries agreed to suspend, reduce or remove their tit-for-tat measures adopted since early 2025, mainly including additional tariffs, port fees, entity list expansion and export controls.

The US announced it would cut fentanyl tariffs on China in half, to 10 percent from 20 percent, while China said it would remove the additional duties of 10 to 15 percent it had imposed on a range of US agricultural products, including soya beans. Both sides have suspended the 24 percent "reciprocal tariffs" for a year until November 10, 2026.

Since early November after the Xi-Trump meeting, several US trade delegations and business leaders have visited China, including an agricultural delegation, according to China's Ministry of Commerce.

'Co-Equals'

Notably, the two leaders struck a much more conciliatory tone for long-term development of the bilateral relationship before, during and after the Busan meeting. Trump told the press aboard Air Force One that he rated the talks a "12 on a scale of one to 10."

In an interview with CBS News later on November 2, Trump said that "it is important that China and the US get along," and that the US "can be bigger, better and stronger" by working with China.

What struck observers the most was Trump's hailing the meeting on social media as a "G2 meeting" which he said would usher in "everlasting peace and success," something many analysts believe suggests that the US is ready to deal with China on equal terms.

Coined by economist C. Fred Bergsten first in 2005 primarily for his proposition for a US-China joint leadership in the global economy, the G2 concept gained traction and was raised by US leaders during the 2008 global financial crisis as China's massive stimulus helped to stabilise both its own economy and the global recovery. But China rejected this idea, arguing that it was still a developing country and would always uphold the "non-alignment" principle of its foreign policy, and that every country should have a say in global issues.

Trump's recycling the G2 concept is thought to bear a different connotation, as much has changed since the birth of the term. The US has labelled China as a strategic rival, and China has become more assertive towards US pressure, something more evident in its effective pushbacks against Washington's trade war in recent months.

"It[Trump's G2 rhetoric] sent two important signals," Wu Xinbo, a professor and dean of the Institute of International Studies at Shanghai-based Fudan University, told *ChinaReport*. "First, with China's countermeasures, Trump has realised that pressure and coercion are not effective tools in dealing with China. Dialogue, negotiation and mutual compromise are."

"Second, despite persistent frictions and disputes, both China and the US are demonstrating a shared desire to stabilise the broader relationship, which is a positive development for the region and the world," Wu added.

According to Gao Zhikai (Victor Gao), vice president of the Centre for China and Globalisation, a Beijing-based non-governmental think tank, the meeting is a "turning point" in the China-US relationship.

"China considers the US neither as an enemy nor a rival, and has made its stance clear. If it's a talk, the door is wide open. If it's a fight, China will stand its ground to the end," Gao said in global affairs programme *Cross-Strait Roundtable* uploaded to YouTube on November 5.

Concluding that China and the US are now recognised as "co-equals," Gao said that the meeting has shown that despite their disputes, the two countries will live in an "inevitable peace." Gao first raised the idea of "inevitable peace" in 2021, arguing that a war between the two powers would be disastrous for both countries and the whole world.

China still appears reluctant to embrace the G2 idea, largely due to it suggesting a hierarchical world order, which runs counter to the underlying doctrine of China's overall global diplomacy.

At a press conference in Beijing on October 31, while recognising that China and the US can shoulder their responsibilities as major countries, China's Foreign Ministry spokesperson Guo Jiakun reiterated China's commitment to an independent foreign policy of peace, and stressed its status as the largest developing country, a partner of the Non-Aligned Movement and a member of the Global South.

"China will continue to practise true multilateralism," he said.

'Mutual Success'

Meanwhile, Beijing has long argued for a bilateral relationship based on mutual respect and equality. In the past, Xi has repeatedly said that the world is big enough for China and the US to coexist, and the China-US relationship should be built on "win-win cooperation."

However, the idea of win-win cooperation has never been well received in the US. As John Thorton, chair emeritus of the Brookings Institution, said in an interview with *China Focus* in March 2024 that people in the US either think there is no such thing as having

USDA
AMCHAM
SHANGHAI
American Food and Agriculture
美国食品与农业

Top: Staff at the American Food and Agriculture booth at the 6th China International Import Expo, Shanghai, November 9, 2023 (Photo by VCG)

Above: Containers from China Ocean Shipping Company (COSCO) are stacked at the Port of Los Angeles, California, US, October 15, 2025 (Photo by VCG) two winners in a sporting event, or believe it simply means China wins twice.

This time, President Xi adopted a different approach to deliver the same message by aligning China's goal of "national rejuvenation" with Trump's iconic "Make America Great Again" agenda.

"China's development and revitalisation goes hand in hand with US President Donald Trump's vision to 'Make America Great Again,'" Xi said during the Busan meeting, adding that the two countries "are fully able to help each other succeed and prosper together."

Given different national conditions, the two sides do not always see eye to eye with each other, and it is normal for the two leading economies of the world to have frictions now and then, Xi said, reiterating that China does not aim to replace the US as the leading world power.

"China has no intention to challenge or supplant anyone. Our focus has always been on managing our own affairs well, improving ourselves and sharing development opportunities with all countries across the world," Xi said. "China and the US should be partners and friends. That is what history has taught us and what reality needs," he added.

Xi also called on both countries to "jointly shoulder our responsibilities as major countries, and work together to accomplish more great and concrete things for the good of our two countries and the whole world."

According to Shen Yi, a professor of international politics at Shanghai's Fudan University, Xi's remarks reflect that China has taken proactive and positive approach in guiding the healthy interaction and development of China-US relations.

"It represents an innovative way of thinking and a new perspective to convey China's view that, based on its own strength, actions and existing realities, the two countries do not necessarily have to fall into a so-called zero-sum rivalry," Shen said in a column for guancha.cn on October 30.

"On the contrary, through this series of dialogues, it has become clear that China and the US have lots of room for cooperation that can lead to win-win outcomes and shared development," Shen added.

Shen argued that by emphasising cooperation rather than confrontation, Xi's statement indicates that China is seeking to "inject positive substance" into the strategic framework that would pave the way for a more stable and cooperative relationship in the future.

Gaining Balance

While the two countries have reached a truce over trade issues, more serious issues were unaddressed during the meeting, such as the Taiwan question and the South China Sea. As the two leaders are expected to exchange visits in 2026, analysts argue that they need to take these opportunities to rebalance and recalibrate their policies to rebuild mutual trust.

In a commentary published in US-based *Foreign Affairs* magazine on October 30, Da Wei, director of the Centre for International Security and Strategy and a professor of international relations at Beijing-based Tsinghua University, argued that the Trump administration should formally oppose Taiwan independence in exchange for Beijing's scaling down its military exercises in the Taiwan Strait.

"If leaders in Beijing believe there is hope for peaceful reunification, there is less urgency to use military force to resolve the question of Taiwan's status. This arrangement aligns with Trump's global vision of trying to broker peace in areas of long-standing conflict," Da wrote.

Likewise, Da said that the US could lower tensions by reducing the frequency of reconnaissance missions along China's coastline and refraining from politically provocative action in the Indo-Pacific region.

Following the Xi-Trump meeting in Busan, the two countries' militaries appeared to have stepped up communications. The following day on October 31, China's Defence Minister Dong Jun met with his US counterpart Pete Hegseth in Malaysia, the first time the two ministers had met in person.

During the meeting, Dong urged the US to "take a clear stance" against Taiwan independence and to honour the commitment Hegseth made during their phone conversation in September that the US does not seek to contain China and pursue conflict. For his part, Hegseth pledged to "deconflict and de-escalate any problems that arise" between the two militaries.

According to Zhao Minghao, a professor at the Institute of International Studies at Fudan University, the priority for either country, whether seeking to achieve "rejuvenation" or be "great again," is not to fall into confrontation and conflict.

"Through their own reforms and adjustments, they should explore new complementary areas in China-US relations, open up broader space for cooperation and focus on long-term benefits, rather than fall into a vicious cycle of mutual retaliation," Zhao told *ChinaReport*.

"In the meantime, China must be prepared for unexpected changes that may arise in China-US relations. In dealing with the Trump administration, which pursues practical interests and respects power, China can only draw confidence from the momentum of its own rapid, robust and resilient development," Zhao said.★

HIDDEN DEPTHS

Scientists are just beginning to tap the ocean economy's potential, from tidal power to new disease treatments. Companies on the frontier discuss both progress and pitfalls

Ocean Economy

Rising Tide

Marine energy development has been drowned out by successful clean power projects on land. Can new government policies give tidal and wave power generators the jump start they need?

By Zhou You and Wang Yan

Wind turbines rotate on Lühua Island, Zhoushan, Zhejiang Province, June 8, 2024. Signalling China's efforts in exploring the green ocean economy, the island is both a demonstration site for clean energy generation and a sightseeing spot for eco-friendly tourism (Photo by VCG)

As China leads the globe in harnessing green energy technologies, particularly wind and solar, a small group of researchers and business leaders are determined to develop a relatively untouched source of clean energy – the ocean. Despite its long coastline of around 32,000 kilometres, including 18,000 kilometres of mainland coastline and 14,000 kilometres of island coastlines, China is a latecomer to ocean energy generation, with a lack of national policy until recently. Without this boost, harnessing the waves and currents might just flounder.

"Ocean energy power projects are advancing towards large-scale, commercialised development, with ongoing cost reductions and improved reliability," Wang Ji, a researcher at the National Marine Technology Centre told *ChinaReport*.

Ocean energy is generated from tidal currents and waves. Tidal current energy is the kinetic energy of water flow from tides, a form of ocean energy and a key renewable energy source.

On Xiushan Island, Zhejiang Province, the LHD Marine Tidal Current Energy Power Station, developed by Hangzhou Lindong New Energy Technology, boasts China's first megawatt-level tidal generator set and the world's largest single-unit capacity. Installed in early 2016, its first unit started generating power and was connected to the national grid in August that year. Additional turbines and modules were installed in 2016 and 2018, bringing the single-platform installed capacity to 1.7 megawatts (MW).

The LHD power station's developer stated that by the end of July 2025, it had an installed capacity of 1.9 MW, generating over 2 million kilowatt-hours (kWh) annually, enough to power the island's 200,000 households. With over eight years of continuous grid operation, it has supplied a cumulative 8.61 million kWh, leading globally in both single-unit scale and operational duration.

According to statistics from the International Energy Agency (IEA), the global tidal and wave energy market was worth US$477.81 million in 2022 and is projected to hit around US$10 billion by 2031. At the IEA Ocean Energy System's 50th Executive Committee meeting in Melbourne in September 2024, the Global Top 20 Marine Energy Highlights was released. The LHD power station, China's only selected project, ranked first in tidal current energy and was recognised by the IEA as the world's sole operational tidal current energy power station.

In February 2025, the Ministry of Natural Resources and the National Development and Reform Commission of China jointly released the Guiding Opinions on Promoting the Large-Scale Utilisation of Ocean Energy. It focuses on scaling up ocean energy use to foster new quality productive forces in the marine sector, with tidal current energy and wave energy as key development directions.

Pioneering Attempts

At Lindong New Energy's headquarters in Binjiang District High-Tech Zone, Hangzhou, an exhibition hall collects real-time data from LHD generator sets. During a July visit, the reporter saw via surveillance cameras that the underwater turbine, stationary at low tide, started rotating and gradually accelerated as the afternoon tide rose.

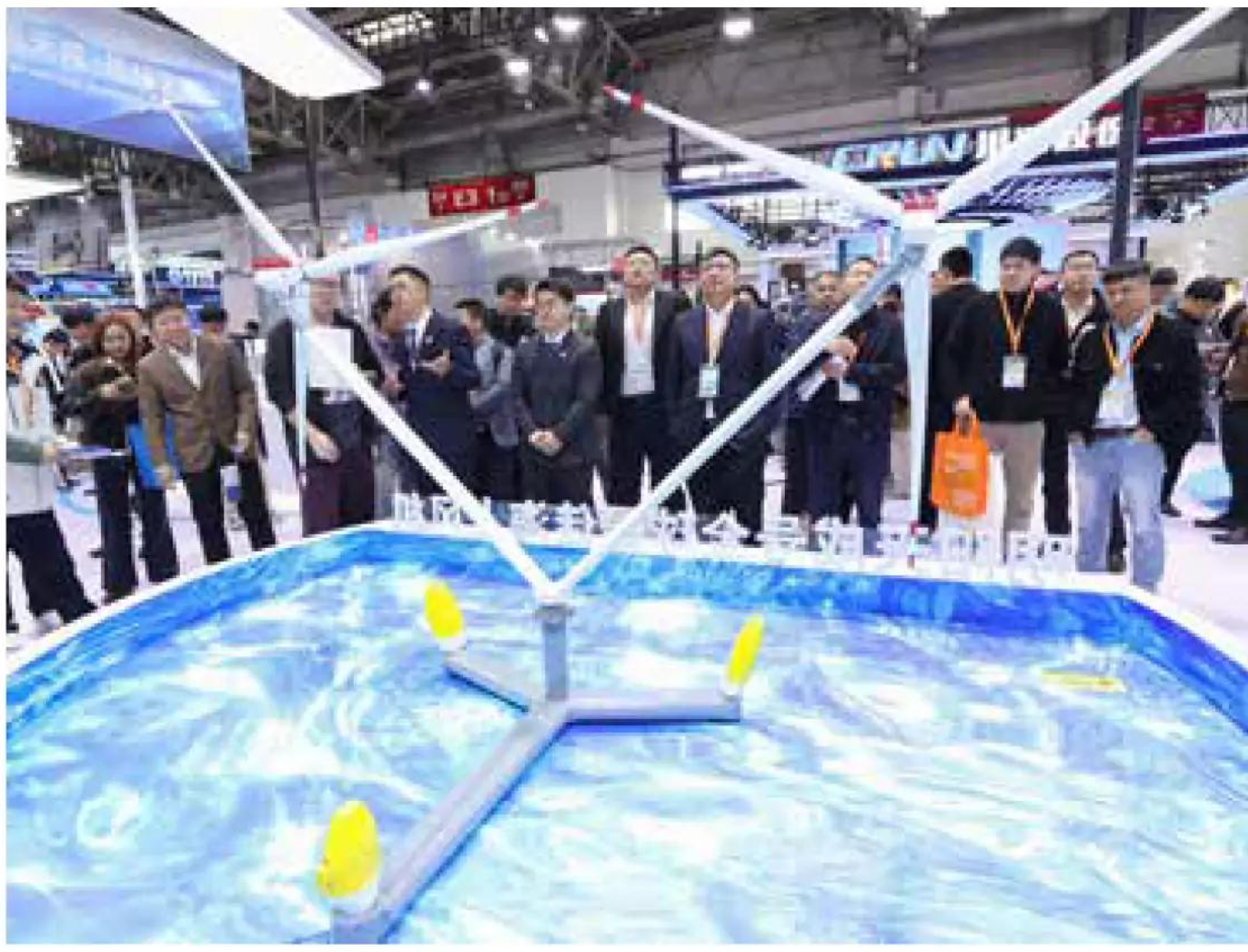
Construction of the second phase of the project began in 2018, followed by the 2022 launch of the 1.6 MW fourth-generation tidal current turbine called Fenjin (Endeavour) – a milestone as the world's largest single-unit tidal current generator to successfully generate power and be connected to the grid.

"On this single day, this unit's peak power generation is 1,317 kW, with cumulative output of 3,804 kWh. Power output ties to tidal periodicity, one peak lasts about six hours, with two peaks daily," Lin Dong, chair and chief engineer of Hangzhou Lindong New Energy, told *ChinaReport*.

The Endeavour power generation unit has so far accumulated over 5.5 million kWh of electricity. After LHD's first-generation 1 MW unit was connected to the national grid in August 2016, following tech upgrades, the second and third generations followed in 2018. The third-generation unit remains in operation, generating over 1.3 million kWh cumulatively in more than six years.

Shi Hongda, director of Ocean University of China's Shandong Provincial Key Laboratory of Marine Engineering, told *ChinaReport* that ocean energy includes tidal energy, tidal current energy, wave energy, ocean thermal energy conversion (OTEC) and salinity gradient energy.

Tidal energy uses the rise and fall of the tides to power generators, tidal current energy generation is similar to wind power as it uses devices placed directly in the current to generate power, and wave energy uses devices that exploit the kinetic energy of the tides, using a buoy containing a generator loosely tethered to the seabed. Engineering practices are underway for these three, Shi said.



Visitors to the China Wind Power Expo and Conference (Beijing) view a model of the Mengyang Tiancheng, the world's largest monolithic floating wind power platform, October 20, 2025 (Photo by VCG)

In the case of the latter two processes, OTEC exploits temperature differences in ocean layers in tropical areas to power generators, and salinity gradient energy, also known as blue energy, uses the difference in salt levels between fresh and salt water. When salt and fresh water are mixed through osmosis, energy is released.

Shi added that tidal power usually needs dams to use internal-external water level differences, and large bays must be enclosed to boost water flow to allow substantial output. "China has dense coastal populations. Though tidal energy has reliable principles and mature tech, its development doesn't fit the national conditions," he said. Enclosing coastlines for it would affect other marine projects in most areas, so tidal energy is not a key R&D focus in China.

Unlike tidal energy, tidal current energy projects are usually sited in inter-island straits with high water flow and have less impact on offshore human activities. Professor Liu Hongwei at Zhejiang University's School of Mechanical Engineering told *ChinaReport* that tidal current energy is highly regular, and its turbines can draw on wind turbine technology as their use is similar.

It is also less affected by offshore weather. Lin Dong noted that despite being hit by three typhoons in July, the LHD project's daily power output fluctuated by less than 10 percent, and was not interrupted.

In 2009, Lin Dong, who holds master's degrees in business administration and energy development and management, founded LHD Technology in California with fluid mechanics expert Huang Changzheng and new materials expert Ding Xingzhe. The "LHD" abbreviation comes from their surnames' first letters, and the company focused on tidal current energy research. Lin invested US$500,000 annually to explore tidal current energy power generation technical routes at first, conducting many experiments in an in-house circular water channel nicknamed the "swimming pool."

"Tidal current energy power generation was a cutting-edge field at the time, with no country having fully established a technical path," Lin said. The UK installed SeaGen, the world's first commercially grid-connected tidal current generator (1.2MW), in Strangford Lough, Northern Ireland, in 2008. It was decommissioned in 2016 and replaced by more efficient turbines.

Shi Hongda noted that northern Europe has the world's richest wave and tidal current energy due to differences between tides and favourable ocean currents. Though China has vast sea areas, it lacks resource advantages due to low energy flux density – a measure of energy passing through a unit area per unit time – which is limited as it lacks areas with strong tides. This means its tidal current energy utilisation needs more advanced technology to generate power under low flow velocities. China's exploitable tidal current energy has a theoretical average power of nearly 14 million kW, over half of which is in Zhejiang Province.

In 2012, Lin led the LHD R&D team back to China and invested 200 million yuan (US$28m) to develop the Zhejiang LHD Marine Tidal Current Energy Power Station on Xiushan Island, the country's first tidal current energy power station.

Liu Hongwei's team has researched tidal current energy power generation technology since 2004. In 2014, they built 60kW, 120kW and 650kW tidal current energy units on Zhoushan's Zhairuo Mountain Marine Science and Technology Demonstration Island, and also constructed China's first floating tidal current energy test power station.

Economic Price

"China has made breakthroughs in key marine energy technologies and now has the resources and technical foundation for large-scale tidal current and wave energy development. Its demonstration projects are still small, with relatively high power generation costs and tough challenges in continuous operation and maintenance," Wang Ji said. He believes the key to marine energy breakthroughs lies in scaling up long-term stable-operation power stations.

Data from the National Energy Administration shows China's 2024 wind power generation hit 991.6 billion kWh, accounting for nearly 10 percent of overall electricity consumption. Shi Hongda noted that during the 15th Five-Year Plan (2026-2030), the primary goal of marine energy R&D is to boost capacity. He added that wind power grew rapidly once it reached the megawatt scale, so marine energy should aim for over 1 MW per installed unit.

For tidal current energy, costs mainly come from offshore engineering. Liu Hongwei noted that tidal current energy unit hardware costs are not high – similar to wind turbine costs – and with sufficient capacity, costs can be kept below 10,000 yuan (US$1,404) per kilowatt. The real expense lies in building and maintaining offshore piles to support floating structures, as well as floating platforms, plus future deep-sea power transmission costs, which is an industry-wide obstacle. The stability, reliability and low costs of offshore infrastructure are key to tidal current energy industrialisation.

Wang believes China's marine energy is now in the critical stage of advancing towards large-scale, industrialised development. Urgent breakthroughs are needed for key core technologies, along with improved equipment reliability and economy, and greater efforts to optimise technology design and upgrades.

Grid connection for marine energy-generated electricity is more complex. Shi Hongda noted it requires negotiating with the power sector, and projects must meet the grid's requirements for power, voltage, frequency and volatility. "Marine energy electricity prices are currently less competitive than wind and solar power," he said.

Lin Dong told the reporter that tidal current energy's levelised cost of energy (A measure of the average net present cost of electricity generation for a generator over its lifetime) has dropped from 106 yuan/kWh (US$14.9, first generation) to 8.45 yuan/kWh (US$1.19, third generation) and further to 1.1 yuan/kWh (US$0.15, fourth generation). It is expected to reach 0.3 yuan/kWh (US$0.04) by the seventh generation, lower than thermal power, which will lay the groundwork for large-scale projects to provide affordable ocean clean energy. LHD's temporary electricity price is 2.58 yuan/kWh (US$0.36).

Seeking a Way Out

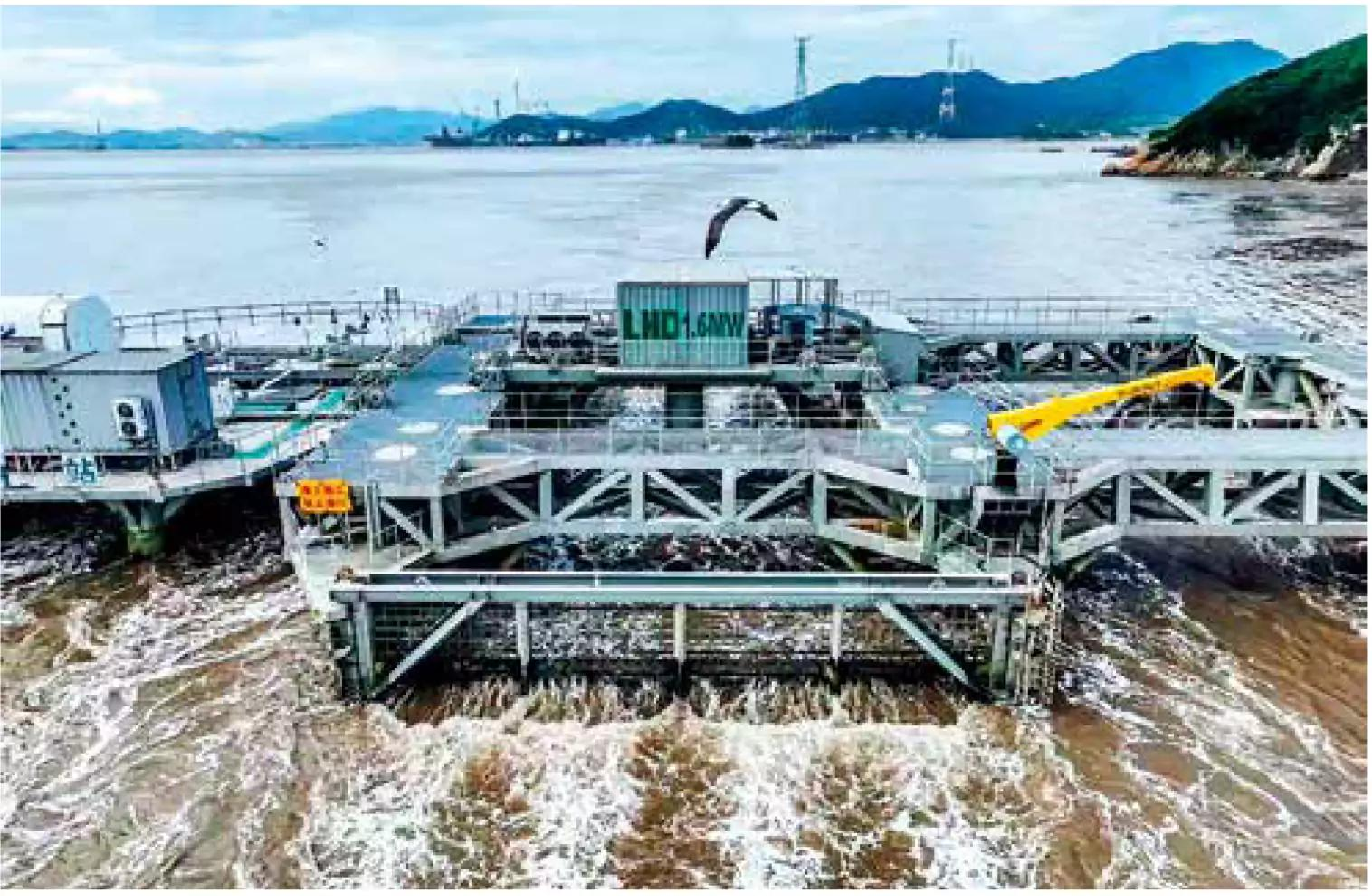
Liu Hongwei's team's tidal current energy station is running and generating electricity. But as a test facility, it does not benefit from a government-set electricity price, and operation and maintenance costs limit the units' long-term operation.

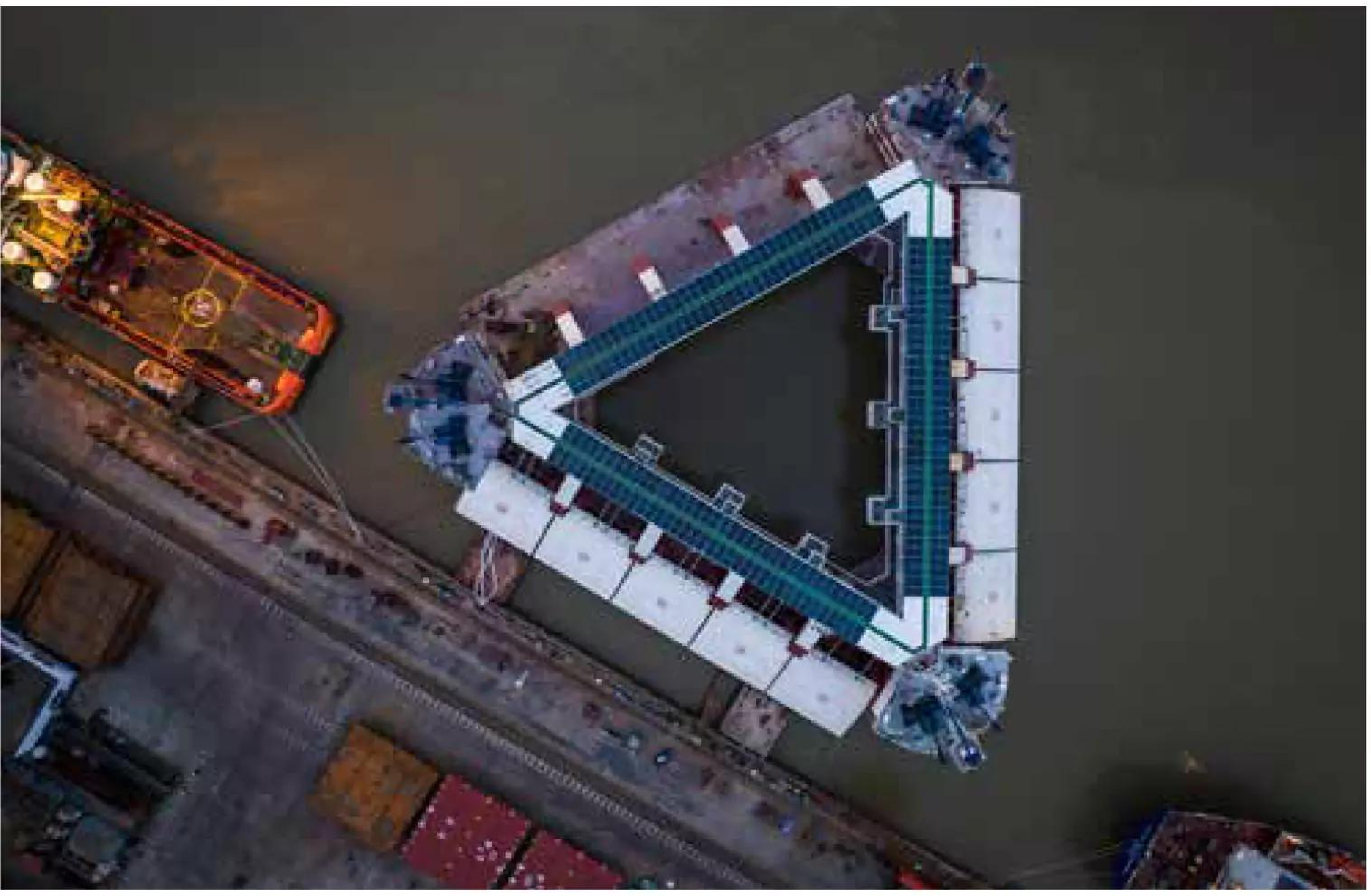
Liu Hongwei believes national support is vital to enable rapid commercialisation of marine energy. "With appropriate electricity prices, existing test power stations can become grid-connected demonstration ones, letting technologies compete on a level playing field for sound development," he said.

The government has set a 2030 goal for marine energy: 400,000 kW of installed capacity, multiple island multi-energy complementary power systems, large-scale marine energy demonstration projects, and enterprises with strong R&D capabilities and global competitiveness for large-scale industry development.

"We're the only ones capable of long-term grid-connected power generation right now," Lin Dong said, noting that no preferential policies were made specifically for their project. According to government tax rules, renewable energy projects must pay value-added tax on the electricity they sell. Thermal power is taxed at 13 percent, solar and wind pay a 6.5 percent rate after adjustments, and small hydropower is 3 percent. Since marine energy is not covered by preferential policies, it is taxed at the 13 percent thermal power rate. "This is a new field, and everything's just starting," Lin said.

Shi Hongda believes marine energy development is closely tied to national policies. Europe's early carbon trading and subsidy policies boosted renewable energy, but China currently has no dedicated subsidies for marine energy, so developers are exploring other solutions. Interviewees told *ChinaReport* that domestic marine energy development needs lower costs, and Shi has proposed





Top: The Fenjin (Endeavour), the fourth-generation LHD Marine Tidal Current Energy Power Station and China's first megawatt-level tidal energy generator, is launched on February 24, 2022, Xiushan Island, Daishan County, Zhejiang Province (Courtesy of the interviewee)

Above: Pictured is the Nankun, China's first self-developed megawatt-level floating wave energy generation device, Guangzhou, Guangdong Province, May 26, 2023 (Photo by VCG)

cooperative development of sites as an alternative path.

Domestic offshore wind power has grown rapidly in recent years, and since 2022, its projects have been excluded from central financial subsidies, making cooperative site development of wind and wave energy a key opportunity for marine energy. Shi said that for floating wind turbines, wave energy devices can absorb impact on the turbines and boost safety, and that energy can be used for power generation, achieving a win-win situation.

Liu Hongwei's team is also researching deep-sea integrated energy development. He noted a key current trend is joint marine energy development with industries like fisheries and hydrogen production. There are already collaborations between wind power generators and fisheries, and wind power-based hydrogen production. Liu hopes tidal current energy can integrate with these industries too, to supply electricity to islands and produce fresh water and hydrogen.

Shi Hongda has maintained contact and global cooperation with Scotland's European Marine Energy Centre (EMEC) for over a decade. He and his team are now building a Marine Energy Offshore Comprehensive Test Site in the sea area of Zhaitang Island near Qingdao. "We hope it will become the China Marine Energy Centre (CMEC) soon," he said, adding that large-scale domestic marine energy development will be visible in the next five to 10 years.

The National Marine Technology Centre, where Wang Ji works, has built four test sites in Weihai, Shandong Province, Zhoushan, Zhejiang Province, Zhuhai, Guangdong Province and Sanya, Hainan Province, forming national-level offshore test grounds covering both shallow and deep seas.

Lin said his company plans to build a 100 MW tidal current energy power plant, around five kilometres from the existing LHD station, with an estimated annual generation of 250 million kWh. "All the preliminary work is done, and we can start construction as soon as the electricity pricing policy is released," he said.

Lin also has ambitions for the Kuroshio Current, a fast, large-volume warm current in the northwestern Pacific also known as the Black Stream due to surface colour differences. "This is the 'oil' at our doorstep, and it will be our next main battlefield," he said.★

Ocean Economy

Deep Treatments

Chinese scientists and pharma companies are diving into the ocean's depths to unlock marine life's potential in developing groundbreaking cancer-fighting drugs

By Sun Houming and Wang Yan

With the ocean covering over 70 percent of the planet, life underwater faces harsher competition than on land. Survival takes more than brute strength. It demands innovation.

In recent decades, scientists have discovered marine organisms that have evolved bioactive compounds capable of combatting some of humanity's greatest threats.

Kelp is being studied for its potential to fight cancer. Certain algae can target dangerous tumours with laser-like precision. Even crab blood can detect toxins with remarkable accuracy.

Over 40 marine-sourced drugs and their derivatives have received regulatory approval globally, with more than 150 compounds in clinical or preclinical stages. Experts estimate 90 percent of marine microorganisms remain undiscovered, representing immense potential for drug development.

On July 1, the sixth meeting of the CPC Central Financial and Economic Commission proposed expanding marine industries, including biomedicine. Along China's 18,000-kilometre coastline, many coastal regions are pushing to develop related industries.

However, marine drug development in China started relatively late and lacks extensive R&D experience, creating challenges in acquiring resources and translating discoveries into applications.

Riding the Waves

Developed over millennia, the unique and diverse bioactive substances of marine organisms are crucial to their survival as species. Lin Houwen, dean of Shanghai Jiao Tong University's School of Clinical Pharmacy and director of the Marine Drug Innovation and Integration Centre, told *ChinaReport* that fierce competition in the deep sea drives microorganisms to evolve strong metabolisms that produce molecules with potent antibacterial, antiviral and cell-damaging effects, providing abundant candidates for new drug R&D.

Zhang Donghua, deputy secretary of the Party Committee of Ocean University of China's School of Medicine and Pharmacy, told *ChinaReport* that over 40,000 marine compounds have been discovered globally, with around 60 percent showing drug potential.

Marine biological resources account for nearly 90 percent of Earth's total biomass, and key marine natural products have drug potential five times greater than terrestrial organisms.

"The core value of marine drugs lies in breaking major treatment bottlenecks," Lin Houwen said. Over the past five years, more than half of global marine drugs entering clinical stages target cancer, and have enormous potential in treating neurodegenerative and metabolic diseases.

Marine organisms such as sponges, corals, algae and microorganisms show promising cancer-fighting properties. According to researcher Lin Yijun at the Third Institute of Oceanography in Xiamen, Fujian Province, 14 marine drugs have been approved worldwide, with over 50 in clinical trials. Among them, anti-tumour research is a key focus, Lin wrote in a May 2025 article for the *Journal of Applied Oceanography*.

China's marine drug industry began in the 1970s. The 2009 *China Marine Materia Medica* compiled over 1,500 medicinal marine species. China now hosts the world's largest marine microbial resource library. The country's marine drug and biological product industry's added value rose from 30.2 billion yuan (US$4.2b) in 2015 to 45.1 billion yuan (US$6.3b) in 2020.

Marine drug research has been formally part of China's national science and technology development plans since the 1980s, a decade that saw its first modern marine drug developed.

Guan Huashi, then at Yantai Fisheries School in East China's Shandong Province, discovered that modified sodium alginate, a byproduct of iodine extraction from kelp, was potentially useful for dissolving blood clots. This led to the creation of propylene glycol alginate sodium sulfate (PSS), an anticoagulant for cardiovascular diseases approved by China's drug regulator in 1987.

Guan later served as president of Ocean University of China in Qingdao, Shandong, where he established the National Engineering Research Centre for Marine Drugs and the Institute of Marine Drugs. In 2016, he launched the Blue Drug Bank plan, which focuses on innovative marine drug R&D and marine biological resource utilisation.

Over the past decade, multiple government documents have highlighted accelerating the industrial application of marine medicine and biological products. The Blue Drug Bank was named one of the Top 10 Frontier Hotspots in National Marine Science and Technology Research in 2024 by the China National Committee for Terminology in Science and Technology.

Currently, among nearly 20 marketed global marine innovative drugs, two are independently developed by China. The Blue Drug Bank plan alone is advancing over 40 marine drug projects.

In 2010, Professor Yu Guangli's team at Ocean University extracted the anti-tumour agent BG136 from bull kelp, which grows around coasts in the Southern Hemisphere. Subsequent studies confirmed BG136's strong immune system-boosting effects and potential as a cancer drug.

In 2022, the BG136 breast cancer drug, developed by Qingdao Marine Biomedical Research Institute, Ocean University and Qingdao Conson Pharmaceutical, was approved by China's National Medical Products Administration (NMPA) for clinical trials.

This was the first time seaweed-based compounds were used to help the immune system fight tumours. Following preclinical research, BG136 entered human trials, with Conson Pharmaceutical launching its Phase I trial in September 2025.

The drug inhibits tumour growth and metastasis by binding to immune cell receptors. During an interview with *ChinaReport* at the company's headquarters in Qingdao, Conson Pharmaceutical Vice President Chen Yangsheng called the successful launch a potential turning point in cancer treatment.

Through their research of marine resources, Chinese pharma firms have gained global recognition for cancer treatments using antibody-drug conjugates (ADCs), where antibodies deliver small, powerful drugs directly to tumours.

Disitamab Vedotin (Aidixi), China's first original ADC independently developed by RemeGen, a biopharma firm headquartered in Yantai, Shandong, is also the first ADC to receive breakthrough therapy designations from both the US Food and Drug Administration and the NMPA. It was approved for use to treat gastric cancer by the NMPA in 2021.

In the R&D of traditional Chinese medicine (TCM), over 170 marine-based drugs are in early development, according to the *Pharmacopoeia of China*, the country's official compendium of drugs. For example, Haiqishugan Jiaonang is a polysaccharide drug – which uses long sugar molecule chains to target particular conditions. It is extracted mainly from certain species of brown and red algae, and clinical trials have shown its tumour-fighting effects.

Fishing for New Sources

While China ranks among the world's richest in marine biological and genetic resources, even with this abundance, there are still not enough natural compounds available to develop cancer drugs in quantity. Increasing these resources is crucial to boosting production.

Leveraging its Third Institute of Oceanography in Xiamen under the Ministry of Natural Resources, China has built the world's largest marine microbial resource bank and the country's largest bank of marine germplasm that can be used to make medicines. Scientists have identified 15,000 samples from marine microbes and collected over 6,000 marine species with potential medicinal value. Notably, more than 700 new deep-sea microbial compounds have been discovered, accounting for over 60 percent of those internationally reported.

Scarcity of drug sources remains a major hurdle. According to Lin Yijun's article, China has over 20,000 marine

Horseshoe crabs spawn on the beach in Dover, Delaware, US, June 11, 2023 (Photo by VCG) species in total, about 7,500 of which could be used to make medicine. But so far, fewer than 2,000 have been studied.

Marine biological resources are sparsely distributed, and their tumour-fighting compounds exist at microgram or milligram levels, making large-scale preparation a bottleneck for marine drug development.

Additionally, the depletion of marine species is hindering research. Horseshoe crabs, for example, produce unique blue blood that coagulates rapidly upon encountering bacteria. Reagents extracted from their blood are widely used in toxin detection and drug R&D.

But their populations have sharply declined in recent years due to overharvesting for biomedical purposes, habitat loss and degradation, impact of climate change and pollution, earning them national second-class protected status. This has caused shortages of these reagents, delaying many clinical trials. "This is a microcosm of broader constraints in marine drug development," Lin Houwen said.

Professor Luo Lianzhong, director of the Xiamen Key Laboratory of Marine Medicinal Natural Products at Xiamen Medical College, told *ChinaReport* that marine plants are easier to obtain and cultivate than animals. However, algae have limited types of active compounds.

Luo noted that 20th-century marine drug R&D focused on animals such as sponges, corals and filter feeders such as sea squirts. Although these animals produce novel, diverse compounds with great potential for new drugs, they are difficult to harvest and synthesise.

Moreover, artificial breeding and extraction do not ensure stable drug sources. "Many active substances from marine animals are co-produced by the host and symbiotic microorganisms," Luo said. Over the past two decades, marine microorganisms, with richer genetic resources and more diverse compounds, have become the main focus for global marine drug discovery.

Cultivating marine microorganisms requires strictly maintained conditions. Even if done successfully, the desired compounds may remain dormant and yield nothing of pharmacological value. Lin Houwen said that over half of deep-sea microorganisms die during sampling due to sudden pressure changes from deep sea to land. For example, hydrothermal vent microorganisms can only be cultivated by simulating their extremely high-temperature, high-sulfur habitats in the deep ocean.

Shao Zongze, founder of the China Marine Microbial Resource Preservation and Management Centre, told *ChinaReport* that unlike marine flora and fauna, microorganisms can be industrially developed via fermentation, synthesis and other pathways. This helps to scale up production and better enables product development.

Shao highlighted that AI and big data technologies have greatly improved marine drug screening efficiency. Xu Ximing, deputy director of the Marine Medicine and Health Information Centre at the Institute of Marine Drugs, told *ChinaReport* that previous screening relied on blind testing of natural products.

Today, big data analysis and advanced screening tech let scientists match 3D models of marine compounds with databases of diseases. "It's like using the right key to unlock a lock," he said, "and we discovered a small-molecule antiviral drug through this approach."

Lin Houwen believes that overcoming the marine drug R&D bottleneck requires accelerating the use of AI and automation, and better domestic deep-sea sampling equipment. For example, Qingdao BGI's world-first intelligent marine drug discovery platform is fully automated, from sampling to synthesis.

Many domestic research institutions, according to Zhang Donghua, are setting up marine microbial banks, flora and fauna banks and gene banks, laying the foundation for future drug development.

Top: Aquaculture workers gather kelp in the glow of the rising sun at a marine farm in Rongcheng, Weihai, Shandong Province, June 4, 2025 (Photo by VCG)

Above: The marine drug pilot base of Qingdao Conson Pharmaceutical, Qingdao, Shandong Province (Photo Courtesy of Interviewee)

Message in a Bottleneck

A common modern marine drug R&D approach is to use active molecules as "keys" to identify corresponding targets, then design new drugs around them. Zhang Xiaokun, founding dean of Xiamen University's School of Pharmaceutical Sciences, said that China leads globally in marine biological resource

Visitors learn about domestically produced marine pharmaceuticals at the East Asia Commodities Fair held in Qingdao, Shandong Province, September 5, 2018
(Photo by VCG)

development and compound discovery.

While clinically advanced Chinese marine drugs match international standards in compound diversity and target distribution, they are few and far between. "Very few can be successfully transformed into new drugs," Zhang said.

In July 2025, Song Ruilin, executive president of the China Pharmaceutical Innovation and Research Development Association, commented on China's innovative drug landscape: "China's new drug R&D has reached world-class levels, but challenges persist, including R&D homogenisation and a mismatch between industrial capacity and market potential."

These challenges also apply to China's marine drug industry. Lin Houwen noted that China's lack of success in marine drug R&D stems from insufficient capacity. According to Zhang Donghua of Ocean University, the industrialisation rate of domestic marine biomedicine is only 5 percent, far below the 30 percent international average.

"Most pharmaceutical companies focus on drug indications (what a drug is used to treat) and product layouts (how to produce at high volume), rarely engaging in early-stage marine drug development," he added.

Du Guanhua, director of the National Centre for Drug Screening, noted that research institutions take the lead in early marine drug exploration, as inland pharma firms lack both proximity to marine resources and interest, while coastal firms focus more on mid- to late-stage development. He told *ChinaReport* that breaking this bottleneck requires researchers to have clear direction and sustained investment.

Enterprises are a major force in marine drug R&D. Currently, two marine-derived compounds from Zhang Xiaokun's team have entered Phase I clinical trials, with pharmaceutical companies independently leading the entire R&D process. The anti-tumour marine drug BG136 is a key project under the Blue Drug Bank initiative.

Marine drugs show little short-term commercial payoff, reducing local governments' motivation for sustained support. Poor resource sharing between regions also hinders R&D. Research institutions have limited resource sharing, mainly due to the lack of a common non-profit data and resource platform. Chen Yangsheng noted that establishing national-level gene data and microbial strain resource centres, similar to the US National Centre for Biotechnology Information and the American Type Culture Collection, would greatly boost R&D efficiency. He added that most early research funding comes from local governments, leaving companies like Conson Pharmaceutical facing administrative and policy barriers when promoting drug candidates outside its home province of Shandong.

Du Guanhua argued that spontaneous inter-regional exchanges in early-stage marine drug R&D can partly prevent redundant investment, foster regional characteristics and create synergy. Yet, launching multiple new marine drugs still requires national-level planning and coordination.

Du has participated in programmes such as China's national high-tech R&D programme 863 and the National Science and Technology Major Project for "Major New Drug Innovation." He noted that while hundreds of billions of yuan in special funds have been poured into China's innovative drug R&D system, marine drugs have never been a key focus. He proposes establishing a national-level marine drug industry development innovation centre supported by policy and finance to attract enterprises and research institutions.

Luo Liangzhong said that the global biomedicine industry's rapid development has largely benefitted from foundational major science programmes like the international Human Genome Project. He added that breakthroughs in marine drugs also require sustained, stable national-level support.

Marine drug R&D and marketing requires multiple agencies working together, from marine affairs and healthcare to drug supervision and medical insurance, according to Zhang Donghua. "A single department cannot drive systematic breakthroughs. Higher-level institutional coordination and national unified planning are needed," he said.★

China's 15th Five-Year Plan

New Metrics

With the newly unveiled 15th Five-year Plan (2026-2030), China has set a course for the next stage of modernisation, aiming for innovation-driven growth, domestic resilience and wider opening up, and more "investment in people"

By Yu Xiaodong

Following the closely watched fourth plenary session of the 20th Communist Party of China (CPC) Central Committee held between October 20 and 23 in Beijing, China's central leadership adopted a document that outlines the priorities of the 15th Five-Year Plan (FYP) for the period between 2026 and 2030.

Titled "The Recommendations of the Central Committee of the Communist Party of China on Formulating the 15th Five-Year Plan for National Economic and Social Development," the document is designed to serve as a blueprint of policy priorities in the next five years for the world's second-largest economy.

Describing the period from 2026 to 2030 as a "critical stage" for "basically realising socialist modernisation," an objective China's leadership has long pledged to achieve by 2035, the document reaffirms the country's efforts to pursue "high-quality development," and vows to build a modern industrial system, boost innovation and technological self-reliance, expand domestic demand and open up more broadly to the world.

Innovation as a Driver

Reaffirming that pursuing economic development remains the government's "central task," the document identifies innovation as "the fundamental driving force" of China's future economic growth. Throughout the document, the words "technology" and "technological" appear a combined 46 times, and the word "innovation" is mentioned 61 times.

Pledging to strengthen support for "basic research and original innovation" to achieve "breakthroughs in core technologies in key fields," the document emphasises the importance of achieving "scientific and technological self-reliance."

A variety of industries is mentioned, including new energy, new materials, aerospace and the low-altitude economy, quantum technology, bio-manufacturing, hydrogen energy and fusion energy, brain-computer interfaces, embodied intelligence and sixth-generation (6G) mobile communications.

The document also recommends that efforts be made in four areas: strengthening original innovation and core technology breakthroughs, promoting the deep integration of scientific and industrial innovation, advancing the coordinated development of education, sci-tech and talent, and further boosting the construction of the Digital China initiative, which focuses on eight major areas, such as AI plus, digital, infrastructure upgrading and digital talents.

The guideline reaffirms China's focus on technology and innovation in the past years. In late 2023, Chinese President Xi Jinping raised the idea of "new quality productive forces," which was formally adopted in the 2024 government work report during the annual session of the National People's Congress (NPC).

According to data released by the Ministry of Science and Technology in September, China's total R&D expenditure in 2024 exceeded 3.6 trillion yuan (US$505.7b), up 48 percent on 2020. Of this, 250 billion yuan (US$35b) was spent on basic research in 2024, up 70 percent on 2020.

Accounting for 2.68 percent of annual GDP, China's R&D intensity surpassed the average level of EU member states, which stood at about 2.22 percent in 2023. For five consecutive years, China has led the world in the number of high-level scientific papers published in international journals and in international patent applications.

At a press conference held after the conclusion of the fourth plenary session of the 20th CPC Central Committee on October 24, Zheng Shanjie, head of the National Development and Reform Commission (NDRC), China's top economic planner, told reporters that China's priority in the next five years will be building a modern industrial system

Top: The LEGO booth at the 8th China International Import Expo (CIIE) in Shanghai, November 7, 2025
(Photo by VCG)

Middle: A visitor experiences a brain-computer interface controlling a soft hand exoskeleton integrated with functional electrical stimulation technology at the HICOOL 2025 Global Entrepreneurs Summit held in Beijing, October 17, 2025
(Photo by VCG)

Bottom: A group of foreign tourists stroll through one of Suzhou's classical gardens in Jiangsu Province, November 6, 2025
(Photo by VCG)

and reinforcing the foundations of the real economy.

Efforts will also be made to accelerate the development of strategic and emerging industry clusters. These industries are poised for significant growth, with the scale designed to be added over the next decade equivalent to creating a whole new high-tech sector, thus injecting continuous momentum into the high-quality development of the Chinese economy, Zheng said.

Investing in People

The document also highlights the importance of domestic demand as a major component of the much-desired "high-quality development." "Domestic demand should play an increasingly greater role as the principal engine of economic growth," it says, calling for the creation of "more models of economic growth that are led by domestic demand, driven by consumption and sustained by self-generating momentum."

Domestic demand has long been considered a weak link in China's economic growth, and its importance has been repeatedly highlighted by government policies in the past few years. What makes the new document different is that it calls for a people-centered approach and proposes the concept of "investing in people."

Recognising that "a strong domestic market provides strategic support for Chinese modernisation," the document emphasises the importance of "improving living standards while increasing consumer spending and combining investment in physical assets with investment in human capital."

"For more than four decades, China's economic growth has been powered by heavy investment in tangible fixed assets, infrastructure and the relentless pursuit of GDP expansion," Su Jian, a professor and economist at Peking University told *ChinaReport*.

"Those investments delivered impressive results during China's early development stages, but as the economy matures, there is much less room for material investment, with many industries facing intense competition and diminishing returns," Su added.

As China positions technological innovation as the main engine of its next phase of growth, Su said the government is shifting its investment focus from physical assets to people. The document outlines a wide spectrum of social policies, from education, employment, healthcare and pensions to tax reform and birth incentives. Among these, promoting childbirth is likely to become a top policy priority, followed closely by education reform, he said.

China has already been moving in this direction, steadily strengthening its social security network, healthcare system and education infrastructure. Analysts believe the clear articulation of the "investing in people" concept marks a symbolic shift and that China will gradually shift from a GDP-centered growth model to a development path oriented towards well-being and quality of life.

'Opening China Wider'

Another highlight of the 15th FYP document is the commitment to "opening China wider to the outside world." The document declares that "opening up and cooperation for mutual benefit are integral to Chinese modernisation," adding "we must continue to expand opening-up at the institutional level, safeguard the multilateral trading system and promote broader international economic flows."

More specifically, the document pledges to "expand market access and open up more areas, in particular in the services sector, and unilaterally open up more sectors to more regions," while highlighting the importance of "expanding two-way investment cooperation," and pursuing high-quality Belt and Road cooperation. "We should work faster to facilitate regional and bilateral trade and investment agreements, and expand our network of high-standard free trade areas," the document reads.

At the October 24 press conference, Wang Wentao, China's commerce minister, told media that in the next few years, China will expand pilot programmes to open up its value-added telecommunication and biotechnology sectors, allow more wholly foreign-owned hospitals and increase the openness of the education and culture sectors.

Wang said that China plans to

People shop in a supermarket in Huaian, Jiangsu Province, November 10, 2025 (Photo by VCG)

16.90 10.90
18.90 18.90

enhance green and intermediate goods trade, improve the system managing its negative list for cross-border services and steadily increase the openness of its digital trade. Stressing that China will foster a transparent, stable and predictable regulatory environment, Wang said that investing in China is "not an option, but a must" for international investors. Warning against the "zero-sum approach" in opening-up and attracting investment, Wang added that China will focus on "mutually beneficial and shared development."

On October 28, during the ASEAN Summit held in Kuala Lumpur, Malaysia, China and the Association of Southeast Asian Nations (ASEAN) formally signed an agreement on the second upgrade of the ASEAN-China Free Trade Area (ACFTA), first inked in 2002. The new 3.0 version covers nine areas, including the digital and green economies as well as supply chain connectivity.

China and ASEAN are each other's largest trading partners, and the upgrade of their free trade deal marks a new stage in regional economic integration.

Then on November 3, China announced a one-year extension to its visa-free entry policy up to the end of 2026 and added Sweden to the list. This now allows citizens of 45 eligible countries to travel in China for up to 30 days for tourism, business and family reunion. China also expanded its 240-hour visa-free transit policy to more points of entry, increasing the number of ports eligible for the 240-hour visa free transit from 60 to 65 around the country.

Amid rising protectionism and geopolitical tension, these policies reflect China's ongoing efforts to promote inbound travel and international engagement. The visa-free programmes are believed to be behind the rapid rebound of the inbound travel sector in the past months.

According to the National Immigration Administration, the number of foreign arrivals in the first half of 2025 reached over 23 million, a year-on-year increase of nearly 130 percent.

Dong Yu, professor and executive vice dean of the China Institute for Development Planning at Tsinghua University, said that China's consistent emphasis on advancing high-level opening-up sends a clear signal of policy stability, and that the 15th FYP is underscoring this commitment shows that opening up to the outside world has become a key starting point of China's development strategy.

Implementation Challenges

Following the adoption of the guideline in October, a more detailed implementation plan for the 15th FYP will be presented to the NPC for approval in March 2026.

According to Wei Qijia, director of the industrial economy research office at the State Information Centre's Department of Economic Forecasting, in order to implement the 15th FYP successfully, China needs to overcome several challenges.

"First, the world is experiencing an unprecedented pace of technological revolution that is reshaping nearly every sector of the global economy. Second, uncertainty caused by geopolitical tensions is affecting and challenging all countries around the world," Wei told *ChinaReport*.

Domestically, China will need to address some challenging issues, such as achieving a dynamic balance between industrial supply and demand, curbing excessive competition, tackling population ageing, managing local government debt and stabilising and restructuring its trade sector.

"With the ongoing economic restructuring, upgrading and optimising the economic system has become a challenge China must tackle head-on," Wei noted.

Looking ahead, Wei said the 15th FYP will serve as a critical foundation for attaining China's long-term goal of achieving basic modernisation by 2035, with per capita GDP reaching the level of middle-income nations.

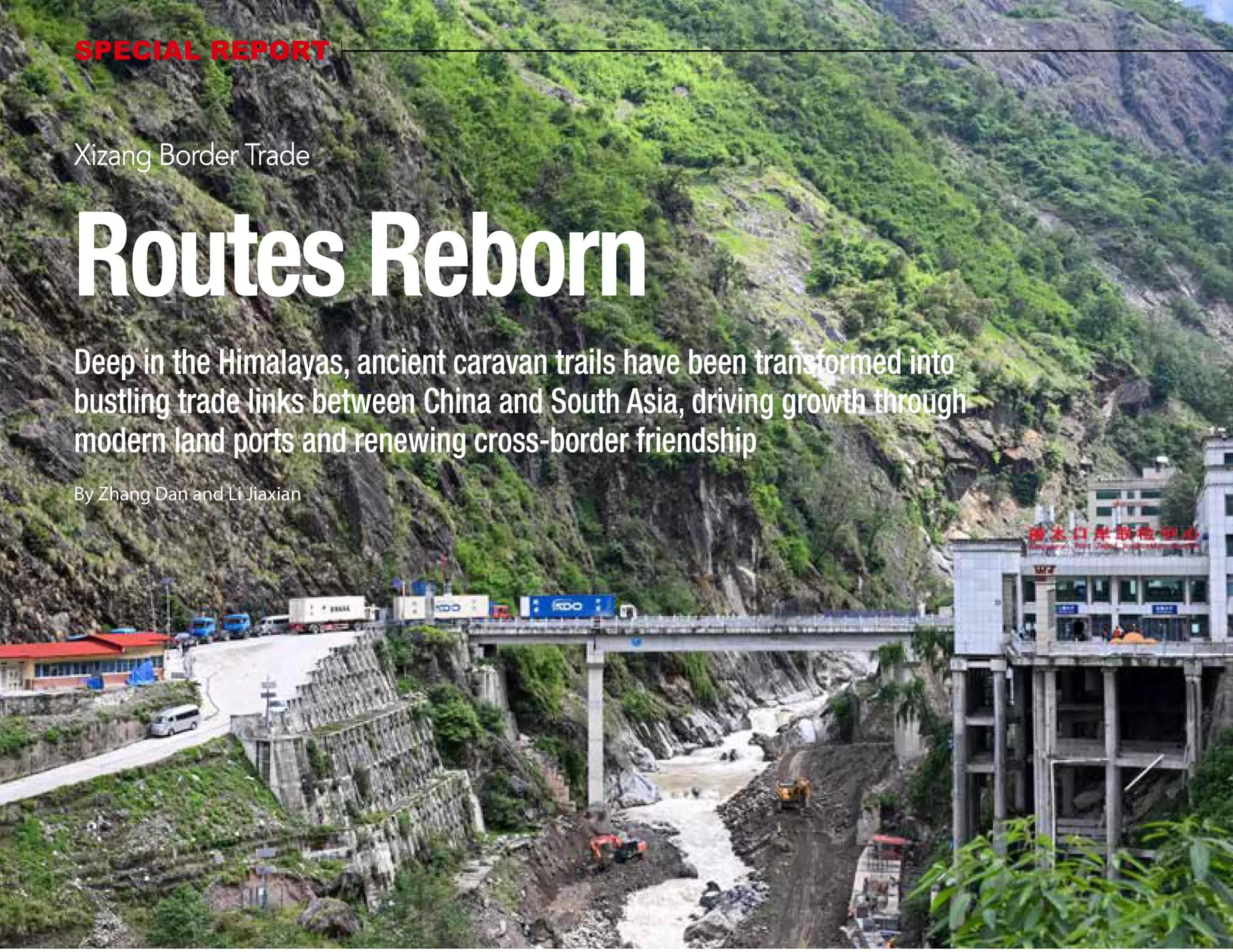
"During this period, China must realise both quality improvements and steady quantitative growth, promote all-round human development and make concrete strides towards common prosperity, ensuring decisive strides towards basic socialist modernisation," Wei said. ★

Xizang Border Trade

Routes Reborn

Deep in the Himalayas, ancient caravan trails have been transformed into bustling trade links between China and South Asia, driving growth through modern land ports and renewing cross-border friendship

By Zhang Dan and Li Jiaxian



Trucks on the China Nepal Friendship Bridge head towards Zhangmu Port, Xigaze, Xizang Autonomous Region, May 24, 2025 (Photo by CNS)

Nepali trader Tamang lined up to cross into China. Her ID card in hand, Tamang completed customs clearance within minutes at Zhangmu Port in Xizang Autonomous Region, about 120 kilometres north from Kathmandu.

She makes the trip every day to work, much like the long queue of people that had already formed in the inspection hall behind her at 10 am in May 2025.

Nearby, customs officers inspected trucks loaded with containers and new energy vehicles as they slowly moved across the port's China-Nepal Friendship Bridge towards Nepal.

Tamang works as a shop assistant in the border market on the Chinese side. But a decade earlier, getting to work would have been impossible.

An 8.1-magnitude earthquake rocked the area in April 2015. Both the bridge and port were severely damaged, cutting Tamang off from her livelihood. It took four years to rebuild the bridge, and another four to repair the port. During that time, Tamang returned to farming with her family, leaving her with no regular income.

With the reopening of Zhangmu Port in September 2023, Tamang was once again making a living in the same town where her cross-border story began.

The snow-capped Qinghai-Xizang Plateau stretches for more than 4,000 kilometres along China's borders on the northern slopes of the Himalayas. For centuries, the region has served as an important gateway connecting Central China with South Asia. As early as the Tubo Kingdom (618-842), there was inter-regional trade with Nepal and India on routes through the towns of Gyirong and Zhangmu, crossing the Himalayas. These routes carried not only goods such as tea, salt and grain, but also the spirit of cultural exchange.

Today, these routes have evolved into a network of three international ports – Zhangmu, Gyirong and Burang – and one bilateral port, Lektse. In

2024, Xizang's trade volume with Nepal reached 5.12 billion yuan (US$723m), an increase of 84.8 percent, accounting for more than 30 percent of total China-Nepal trade.

However, the area remains treacherous. Flash flooding on July 7 swept away another China-Nepal Friendship Bridge at Gyirong Port, also known as Rasuwa Bridge in Nepal, leaving at least nine dead and dozens missing. The port, which was the primary crossing for tourists, remains temporarily closed, with traffic being directed to Zhangmu.

Staff members check new energy vehicles to be exported to Nepal, Gyirong Port, Xigaze, Xizang Autonomous Region, May 25, 2025 (Photo by CNS)

'Little Hong Kong'

Nestled in the steep gorges on the southern slopes of the Himalayas, Zhangmu Port sits on the Boqu River, the natural boundary between China and Nepal.

As a key point along the China-Nepal Highway, Zhangmu Port is only 120 kilometres from Kathmandu, Nepal's capital. Its advantageous location has made it an important border trade centre in Xizang, earning it the nickname "Little Hong Kong of the Snowy Plateau." This small town of just over 3,000 residents sees about 1,400 people come and go daily. Goods from across China meet those from Nepal and India here, creating a lively cross-border market.

Beyond its prosperity, Zhangmu looks like a "city in the sky" to Zhao Zhibin, a deputy captain at Zhangmu's Nyalam Border Inspection Station. Buildings rise in tiers along winding mountain roads, stretching from the Friendship Bridge at an altitude of 1,700 metres up to the mountainside at 2,400 metres. Each morning, as mist rises, the entire town flickers like a mirage suspended mid-air.

Yet before the peaceful liberation of Xizang in 1950, this thriving port presented a starkly different picture. At that time, Zhangmu had only about 20 households. Locals made their living carrying goods on their backs for merchants year-round. They tied the goods tightly with a rope, fastened the load onto their backs, looped the rope over their heads for support and walked barefoot. The narrow, treacherous 30-kilometre trail from Zhangmu to Nyalam County was so dangerous that porters often collapsed and died on the way, earning it the grim nickname "the road to hell."

"My grandmother was a porter back then," said Gesang, a local youth standing on the China-Nepal Friendship Bridge. "She told me it took two days to make the trip. Now, thanks to the China-Nepal Highway, it takes just one hour by car to reach Nyalam."

The 2015 earthquake dealt a devastating blow to the port. According to Zhao Zhibin, landslides blocked roads, buildings were destroyed, and port operations came to a complete stop. After eight years of reconstruction, Zhangmu Port fully resumed two-way personnel clearance on September 1, 2023. A newly built flood-control embankment now stands like a fortress guarding the valley, while an intelligent customs clearance system has accelerated inspections and cargo release, breathing new life into the revitalised port.

Goods from across China, like small home appliances from Guangzhou, Guangdong Province, footwear from Hebei Province, textiles from Yiwu, Zhejiang Province and new energy vehicles from Shandong Province, flow steadily through Zhangmu Port into South Asian markets. According to Nyalam Customs, from January to September 2025, the port handled 315,000 inbound and outbound travellers, with a daily peak of 2,737 people, and processed 66,000 metric tons of cross-border cargo valued at 2.12 billion yuan (US$299m).

Along the narrow mountain road from the port to Zhangmu town, shops selling Chinese goods line both sides, forming a vibrant free trade market. Tamang works in one of those Chinese shops. People like Tamang move among the stalls carrying bundles of clothing, daily necessities, snacks and beverages on their heads and shoulders.

Inside one of these shops, Tamang deftly arranges Chinese products on the shelves, from instant noodles and egg-yolk snack cakes to sausages. She told reporters that daily sales range from 1,000-2,000 yuan (US$141-282).

She earns 900 yuan (US$127) a month now, after getting a raise from 800 yuan (US$113) recently. Her income has greatly improved her family's livelihood. She also takes advantage of the convenient customs clearance to bring Chinese products to Nepal. "Many Chinese goods are very popular in Nepal," she said.

About 200 metres from the port, a new cross-border trade zone for residents along the border is under construction. This modern facility will offer a more standardised and convenient venue for traders from both sides.

At 6 pm, Tamang set off for Nepal with Chinese goods she purchased that day. The setting sun cast a golden glow over the China-Nepal Friendship Bridge as dozens of Nepalese border residents walked alongside her after a day's work.

'Golden Corridor'

Across the mountains from Zhangmu Port lies Gyirong Port, where in late May, just before the devastating floods in early July, the inspection area was already bustling early in the morning. More than 100 brand-new domestically produced new energy vehicles, including GAC Aion and DFSK models, are neatly lined up. Nepali drivers skillfully navigate their vehicles through the H986 large-scale container scanning system, completing inspection in just five minutes.

The trade route through Gyirong dates back to 789. During the Tang Dynasty (607-917), Chinese envoy Wang Xuance travelled along the Bo-Ni Ancient Trail, which linked Lhasa and Kathmandu through Gyirong, on his diplomatic mission to India. This historic passage bears witness to the long-standing commercial ties between China and South Asia.

Top: A shop sited along the mountainous road from Zhangmu Port to Zhangmu Town sells Chinese products, Xigaze, Xizang Autonomous Region, May 24, 2025 (Photo by CNS)

Above: A tourist selects wood carving products from Nepal at the border market, Gyirong Port, Xigaze, Xizang Autonomous Region, May 25, 2025 (Photo by CNS)

Gyirong Port was officially opened in 1961, resumed bilateral customs clearance in 2014 after years of closure since 1980s due to poor infrastructure, and was upgraded to an international port in 2017, marking the beginning of a new phase of rapid development. Today, it has become a key export corridor to South Asia for China's "new trio" of high-tech exports: new energy vehicles, lithium batteries and photovoltaic products.

In 2018, Nepal launched its National Electric Mobility Plan, followed by a series of supportive policies such as tax exemptions and purchase subsidies that further stimulated demand for new energy vehicles.

As of July 7 when the port closed due to a flood, Gyirong Port had exported

4,163 new energy vehicles in 2025, an 11.46 percent year-on-year increase, according to Dawa Pingcuo, a deputy head with Gyirong Customs. To improve clearance efficiency, customs authorities have moved inspection procedures forward, completing primary checks at an inspection site located 30 kilometres from the port.

Innovations at the port extend well beyond this measure. Gyirong Customs has established a dedicated service window for new energy vehicle exports, implemented facilitation measures such as advance declaration and immediate inspection upon arrival, and introduced a single declaration for multiple vehicles.

Sun Yong, head of Xizang Shengcheng International Logistics, a company with years of experience in exporting new energy vehicles, attested to the improvements: "Now vehicles can be released in just a few minutes. It is very convenient and efficient."

Wang Donghua, a chief with Gyirong Customs, said that because Nepalese trucks often carry mixed cargo, customs uses large-scale container inspection equipment for non-intrusive checks and employs an intelligent image analysis system for automated review, greatly improving inspection efficiency.

The port has also recently resolved a long-standing issue: the difficulty of recognising Nepalese licence plates due to inconsistent formats. Through technical upgrades, Nepalese vehicles can now clear customs quickly, with each vehicle's processing time reduced by about 30 minutes.

As exports of new energy vehicles continue to grow, demand for related auto parts such as tyres and brake pads has also increased. From January to July 2025, the total export value of automotive components reached 20.33 million yuan (US$2.87m), a 20.76 percent year-on-year rise. Xizang's first dedicated hazardous goods supervision facility is now under construction and will provide more comprehensive regulatory services for the export of products such as lithium batteries in the future.

During reconstruction, Gyirong Port is also planning to expand its import operations. "Nepalese fruits offer competitive pricing and quality, and there is strong market demand in Xizang," said Wang Donghua. Once the designated fruit supervision site is officially operational, Nepalese citrus and other fruits will be able to enter directly through Gyirong Port, significantly reducing time and transportation costs. This will not only support local fruit processing industries but also bring more high-quality Nepalese fruits into the Xizang market.

Second Home

The prosperity of the ports has profoundly reshaped border towns along the China-Nepal border. Gyirong, once a remote outpost with only a few guesthouses, has become a vibrant hub lined with hotels, restaurants and shops. Local resident Ciren has witnessed this transformation firsthand: "Since the port opened, our household income has multiplied several times. During peak season, our guesthouse is fully booked every day." More young people are now returning to their hometowns to start businesses, opening Tibetan restaurants and speciality shops.

On Gyirong's increasingly lively streets, Nima Lama, a Nepalese entrepreneur, runs a handicraft shop. Inside, intricately carved wooden sculptures, copperware and woolen products attract tourists to stop and browse. "My sister opened her shop here 13 years ago," she said in fluent Tibetan. "Seeing her business thrive, I came to Gyirong to start my own four years ago." During the busy summer months, her daily revenue reaches about 3,000 yuan (US$423). In 2025, her shop also moved into the newly established cross-border trade zone for residents at Gyirong Port, further boosting his business. She now regards Gyirong as his second home. "There are more opportunities here than in my hometown. I plan to settle here long-term," he said.

Another Nepalese entrepreneur who has chosen to settle in Gyirong is Mima Cuomu. For more than a decade, her restaurant has served authentic Nepalese cuisine to travellers passing through the border town. In 2019, confident in the port's growth prospects, she expanded her business by opening a clothing shop and a speciality goods shop. Entrepreneurs like her have become vital links connecting the livelihoods and economies of China and Nepal.

Meanwhile, in supermarkets across Kathmandu, Chinese-made smartphones, home appliances and daily necessities occupy prominent shelf space. Kathmandu resident Ke Shao remarked, "Chinese products are highly favoured by us for their excellent value and quality, bringing great convenience to our daily lives."

According to Lhasa Customs, the number of registered foreign trade enterprises in Xizang had exceeded 1,200 by 2024, a year-on-year increase of 22.8 percent. More than one thousand enterprises from both inside and outside Xizang now conduct trade with South Asian countries through the region's various ports.

Yang Yabo, director of the South Asia Institute at the Xizang Academy of Social Sciences, said: "Geographically proximate countries that engage in cross-border cooperation based on complementary resources can effectively promote mutual development."

From border residents' mutual trade to cultural and tourism exchanges, and from the flow of goods to cultural integration, these routes across mountains and rivers are quietly reshaping the development trajectories and daily lives of people in both countries, writing a new chapter in China-Nepal friendship.★

Theme Parks

Keeping Up Appearances

To keep up with visitor demands, theme parks are investing in offering immersive experiences with performers and interactive role-playing. Numbers are up, but can they sustain the momentum?

By Xie Ying and Meng Qian

Zheng Guolin (centre, left) acts as Tang Emperor Li Shimin, Kaifeng, Henan Province, October 12, 2025 (Photo by CNS)

Wearing an imperial robe, "Emperor" Zheng Guolin bestowed his royal blessings on visitors to the Tang Dynasty-themed park he works in, answering cheeky questions like "can you make me a princess?"

Zheng had his work cut out at the park in Xi'an, Shaanxi Province during the bumper National Day holidays from October 1-8. As a working actor, his best known role was playing Tang Emperor Li Shimin (599-649), but lately, it has been hard to get acting jobs as he gets older. During the holidays, Zheng went on a whirlwind tour of seven cities throughout China, making appearances at different entertainment parks.

Zheng has become what are known in China as an NPC or non-player character. The original meaning comes from video games – an NPC is a background character that cannot be controlled by a gamer, but can react to what is happening around them. Now actors and performers at attractions around China are working as NPCs, but in this case they are fully interactive, cosplaying all kinds of roles from imperial court eunuchs to resistance spies in World War II. They act in plays, sing, dance and pose.

It is tough but rewarding work for performers, especially as more young people want to meet "real-life" versions of the characters they love. Some NPCs have become famous, bringing in repeat visitors as attractions look to provide more services and fulfil the desire for immersive experiences. Experts caution that operators need to plan long term if this new "appearance economy" is to become sustainable rather than just the latest tourist fad.

Goblin Time

Baidongxia, or One Hundred Cave Valley, in Central China's Hubei Province proved popular during the National Day holidays after hiring performers to play fairies and goblins to interact with visitors in its 20 karst caves.

Marketing director Han Yufeng told *ChinaReport* the cave complex has been open for two years, but now they are refocusing away from the scenery towards fun and interactivity.

"There's much less interest in natural scenery, so now we're offering a more immersive experience centered on interactions with tourists," Han said. He tailors visits to what he knows young people love right now. "The caves and valleys are really like backdrops to mystery and fantasy TV shows," he said.

Baidongxia is not the only natural scenic spot to find its rivers or mountains are not enough. People are getting bored with similar-looking scenery. Attention has turned to what more one can do to add to the visitor experience.

During the National Day holidays, tourists could battle "Japanese invaders" in a World War II skirmish, talk poetry with famed Tang Dynasty (618-907) poet Li Bai, walk along a facsimile of a street from the Song Dynasty (960-1279), or feed the imprisoned Monkey King in a scene from the classic novel *Journey to the West*.

"Tourists aren't satisfied with just shaking hands or taking photos. They want more and you have to give them enough emotional value, day and night," said Wang Yinan, a performer at Hengdian World Studio, China's largest film studio with attached movie theme park, in Hangzhou, Zhejiang Province. He told *ChinaReport* the park has a spot where he interacts with tourists, accommodating their desires, talking with them, or even hugging them.

Chen Siqi, a Hong Kong actress who worked at a theme park in Guangzhou, South China's Guangdong Province during the National Day holidays, played games of rock, paper, scissors with tourists. "My job is not to win the game, but to distribute game coins to tourists and make them happy. The core is providing emotional value," she said.

Zhao Mei, who has made a name for herself as a park performer among the NPC-loving community, played the matchmaker from the classic Chinese novel the *Water Margin* at a mountain park in Hebei Province over the holidays. She told *ChinaReport* that while visitors to scenic spots do not interact quite so much as at theme parks, she believes the addition of a stage for performances has enlivened the park and encourages people to stay longer at these spots. "It's made the other attractions [in the park] much more popular too," she said.

Part of the Act

Zheng said in his role as emperor, he has much more leeway to improvise. He adapts according to where he is performing. "What differs with films and TV is we don't have a director at the entertainment parks and we can't have any 'do-overs.' It's more like a stage play," he said.

Some attractions offer visitors the chance to get directly involved, playing roles themselves with NPCs. Historical-themed resorts like Millennium City Park in Kaifeng, Henan Province, immerse visitors in the past. Modeled on the famous Song Dynasty scroll painting called *Along the River at the Qingming Festival* by Zhang Zeduan, painted in the early 12th century, the park allows visitors to interact with peddlers, boatmen and waiters in tea houses.

Some historic towns that have become major tourist attractions involve local residents. Wuzhen Ancient Town in Zhejiang Province employs locals who continue to work in their original professions – like chef, boatman or vendor – they just wear traditional costumes and interact with visitors.

But at some theme parks, it is the visitors themselves who take part in historical reenactments alongside their favourite NPCs. At Shanghai Film Park, visitors can participate in a six-hour reenactment set at the end of World War II in August 1945, involving the Chinese resistance and Japanese forces.

Tourists get into character as spies, businesspeople or workers, acting alongside regular performers, helping to gather and submit intelligence reports on the Japanese army's movements.

Tan Yang told *ChinaReport* that she visited the park four times during the holidays so she could play different characters. "I snuck into a Japanese hospital with a police officer, investigated a murder and decided whether to become an underground Party member. I was really emotional when [performers playing] Party members sacrificed themselves in the resistance against Japan," she said.

Despite the high ticket prices, from 700-900 yuan (US$97-125), there are around 2,000 frequent visitors like Tan, media reported.

"When the reenactment launched in 2022, we started out with an attendance rate of 50 percent… then it went up to 100 percent after a video showing the actors wave goodbye to the tourist performers went viral in August [2025]," Yu Song, the show's marketing director told *ChinaReport*. He said they employ 40 performers, all with their own plotlines, aiming to make the visitors really care about them when they interact. "These scenes always get peak emotional reactions," he said.

"Tourists no longer just stroll around similar stalls and buy similar souvenirs, they're transported to parallel worlds in different time and space," Beijinger and theme park fan Gao Hui told *ChinaReport*. "The performers' interactions with tourists have broken the barrier between the virtual and the real world. We feel it's new and fresh," she added.

Economics of Attraction

After videos of especially attractive NPCs went viral, some criticised the parks for cashing in on the "appearance economy." Some performers have talked of the stress of maintaining their character, especially when they become popular.

Chongdugou Natural Scenic Spot in Luoyang, famed for waterfalls and bamboo forests, attracted attention after it advertised for a performer who is 18-28, sunny, handsome, energetic and good at taking photos and interacting with people. The monthly salary was 30,000 yuan (US$4,280). Other places set even stricter standards for potential employees, including broad shoulders and a six pack. A regular park performer might earn 100-150 yuan (US$14-21) a day.

But a good performer at theme parks actually require much more than "good appearance."

Actor Li Jingang plays a beggar in another Song Dynasty-themed park in Kaifeng. With disheveled hair and dirty clothes, he begs so well that some visitors believe he really is a beggar, although media reported he earns 10,000 yuan (US$1,406) a month. He told media he once starved himself for three days and his family thought he was mentally ill and sent him to hospital.

Yang Letian has played an imperial court eunuch at Happy Valley Park Tianjin for 10 years. He told *ChinaReport* he spent a year learning how a eunuch walks and two years working on how to interact with visitors. After he became popular on short-video platform Douyin, he has appeared in many parks nationwide, and he changes up his costumes, props and makeup every year.

Zheng Guolin said he felt embarrassed when he acted as a Tang emperor for the first time. "Wearing the ancient costume, I had a sense of being stranger among fashionable tourists. I felt I was a real-person figurine," he said. "I needed to make the NPC come to life to show people that I am more than a figurine," he said.

"During this process, the embarrassment disappeared and I gradually got immersed in the improvisation. These are the skills you need, it's not just waving to tourists," he added.

NPC actors at the 15th China International Animation Copyright Fair, Dongguan, Guangdong Province, August 10, 2025 (Photo by IC)

Zheng said sometimes it is a strain dealing with all the questions and demands for attention.

"NPCs need to sing, dance, know about the latest comedy shows and popular catchphrases, and local culture and geography. We have to maximise all this knowledge to deal with any situation. It seems there's a low entry threshold, but actually you need comprehensive abilities even higher than a regular actor," he said.

Style over Substance

There is no doubt that employing professional NPCs increases visitor numbers and repeat visits, according to an executive at the Happy Valley Group, who asked for anonymity. An internal survey showed that tourists who interact with NPCs stayed in parks for an average of 2.3 hours, and 68 percent of repeat visitors came because of the NPCs. "The data shows these interactions are key to retaining visitor loyalty, extend the time they stay and attract young people," he told *ChinaReport*.

Inviting already famous celebrities or pop stars for guest appearances can bring in even more visitors. But there is a danger that as parks compete to provide NPC experiences, the similarity will start to bore people.

"Good appearance and emotional value are the basis of NPC interactions, but it's the cultural connotation that keeps the attraction," the Happy Valley CEO said. They make sure they are always updating roles, costumes and scripts. These often take into account popular memes and viral videos.

Li Yongsun, CEO of a leading entertainment group in Shanghai told *ChinaReport* that immersive products started to get really popular in 2022, but around 70-80 percent fail as they end up being style over substance.

"Not every scenic spot is suitable for developing NPCs. We have to plan and design based on the facilities and scenery. It's important to bring tourists emotional value, but we have to consider what the scenic spot's existing resources are," Han Yufeng of Baidongxia Park said.

Ma Hongliang, a manager at Hengdian World Studio, said that while they have used performers for over a decade, now they focus on popular films and TV series for inspiration.

"We give the tourists whatever they want," Ma said. "We have also developed a kind of study programme for students, where an actor plays an ancient poet and talks with them about poetry."

Sustaining the current craze for NPCs depends on constantly innovating and ensuring they fit with the region's culture, experts said.

"Compared to Disney parks, it's still early days for Chinese theme parks. Right now, most of these interactions are with young people," Lin Huanjie, director of the Institute for Theme Park Studies in China, told *ChinaReport*. He suggested that parks can offer content that appeals to all age groups.

"You can't make an NPC become popular overnight to bring in the tourist flows," Lin said. "They need to study roles for a long time and managers need to be constantly innovating their content to build their brand," he added.★

Wang Shihan also contributed to the story

Sleep Disorder

Dream Jobs

Demand for treating sleep disorders is spurring restless expansion of the sleep aid market, but experts say regulators are nodding off at their posts

By Meng Qian and Xu Ming

Li Hongying's customers have a noon-time nap in her healing centre in Beijing (Photo Courtesy of the interviewee)

Thousands of viewers flood into Yueming's livestream when he starts playing the handpan at 11 pm. "They all need my help to get to sleep," said Yueming, who has been livestreaming for three years. Seated with the steel drum-like instrument in his lap, he taps it with his hands, playing through the night whenever he has the time.

For many, a good night's sleep has become a luxury. A survey of 46,400 people released by the China Sleep Research Society in March 2025 found that 48.5 percent of those aged 18 and above either have trouble falling asleep or wake frequently during the night. About one-quarter sleep less than six hours a day.

While 73.7 percent of people aged 65 and over reporting sleep issues topped the survey, younger respondents are the latest to turn in at night. Nearly half of those surveyed between 15 and 35 go to bed after midnight, according to the report.

The survey identified several lifestyle choices that affect sleep quality, especially among younger respondents, including the consumption of coffee or strong tea, overuse of electronic devices, late meals and exercise before bed. It did not account for medical conditions that could impact sleep, such as sleep apnea, or factors like work stress.

Yueming became aware of the demand when he saw comments from followers saying, "I can't sleep without watching your livestream." As the handpan's ethereal sound has become a popular tool for sleep therapy in recent years, Yueming also offers offline training courses on how to use the instrument therapeutically.

His is just some of the host of services that have emerged. These include online chatting, singing or storytelling, livestream companionship and offline meditation centres focused on various therapies.

Another sleep report published by Social Sciences Academic Press (China) in March 2025 shows that the scale of China's sleep health industry has grown from 261.6 billion yuan (US$36.7b) to 495.6 billion yuan (US$69.6b) between 2016 and 2023 and is expected to exceed 1 trillion yuan (US$140.4b) by 2030.

In July, China's Ministry of Human Resources and Social Security listed "sleep health manager" as a new profession. Services include assisting with sleep data monitoring, sleep health analysis and assessment, non-medical intervention guidance, psychological support and long-term sleep health management.

However, the unregulated growth of the sleep aid market at its current early stage has led to a chaotic market. Whether these therapies genuinely help those in need remains unclear and is often questioned, highlighting the need for organised and standardised development.

Increased Demand

Three years ago, Li Hongying opened a healing centre in Beijing CBD, one of the city's busiest business centres. She created a special noon-time nap programme for office workers with sleep troubles, which has become the most popular service at the centre. People often need to book several days in advance for an hour-long, 200 yuan (US$28) session.

Li arrives before 9 am every day to prepare for the noon nap session, setting up the essential oil diffuser to create a relaxing fragrance, rolling out the sleeping mats and warming up the copper singing bowls she uses for sound therapy. "Sleep has become a common issue for those engaged in mentally demanding work," Li said.

Many working in the area have confided that they have trouble sleeping because they're either too excited or anxious, tossing and turning in bed, replaying the day's events over and over in their minds, Li said.

As a result, Li has found that services like hers are increasingly available in smaller cities and counties. Her teacher, Su Yi, said she has trained over 20 sleep-aid practitioners, many of whom are now offering courses in other regions.

Tang Ting, who has operated a centre in Beijing for 11 years, has noticed an increasing demand for sleep aid. He uses medical-grade salt to mimic the microclimate of a natural salt cave, creating an air purification cycle that claims to help with mental relaxation and alleviate stress and anxiety.

Tang said the centre was initially opened to address respiratory problems. But in recent years, at least one-third of his customers have come specifically to address sleep troubles. Its negative ion-rich air fosters a sleep-conducive environment, Tang explained.

Zhang Da, owner of a sound therapy centre in Shanghai, told *ChinaReport* that people struggle with sleep mainly due to the fast-paced nature of modern life. "The body remains in a constant state of alert, keeping the sympathetic nervous system engaged and making real relaxation impossible," Zhang said. He added that the sound of a singing bowl helps break this vicious cycle, activating the parasympathetic nervous system, which controls unconscious bodily functions like heartbeat and breathing, and promoting genuine relaxation and recovery.

Nightmarish Market

But as more people address their sleep problems, rising market demand has also fuelled countless speculators, profiting from hastily cobbled-together skills and manipulative rhetoric, often under the guise of "healing."

Maimai, who owns a healing centre in Hangzhou, Zhejiang Province, told *ChinaReport* that there are many shady practices within the industry. Some courses promise to turn students into singing bowl healers within three days. These individuals, after completing the course, often start small workshops offering singing bowl experiences for low fees. However, many of them cannot sustain their practices for long.

Training centres tend to perform better, typically charging 4,000 yuan (US$561) for a three-day course, Maimai said. But many individual healers struggle to turn a profit. "The entry threshold is low. Many believe that making the bowl sing is enough. Professionals who can truly distinguish sound frequencies and integrate therapy with neuroscience are rare. Becoming a professional requires long-term study and teaching hours," Maimai said.

Zhang Da, who has studied the singing bowl for years and published a book on its use in music therapy, loathes crash courses: "A three-day training course might teach someone how to play them, but becoming a qualified healer requires deep theoretical knowledge and long-term practise, which can't be achieved in just a few days."

He said these hastily trained healers lack a solid understanding of vocal theory, physiology and basic psychology. As a result, the whole process is often crude and may even exacerbate the problem.

Some claim they can provide targetted cures for specific diseases, marketing themselves as "cure-all doctors." Zhang considers this "extremely irresponsible." He said some practitioners falsely claim their institutions originated in Nepal or Indonesia, attempting to attract students with a veil of exotic mysticism.

"Desperate to find a solution, people will try anything recommended to them, whether it's products on e-commerce platforms or offline sleep-aid centres, regardless of their actual efficacy," said Sha Jianjun, founder of a sleep-aid centre in Shanghai.

Zhao Meimei, a hypnotist working in Wuhan, Hubei Province, told *ChinaReport* some of her customers have struggled with sleep disorders for decades and are desperate for a solution. Some centres charge them 100,000-200,000 yuan (US$14,036-28,071), promising to solve their troubles, but these services rarely meet expectations.

In May 2023, a woman surnamed Liu from Dongguan, Guangdong Province, filed a complaint against a company with the city's consumer council. She had spent nearly 50,000 yuan (US$7,018) on a therapy that features the *guqin,* a traditional Chinese musical instrument. The company claimed the therapy would help her sleep, but Liu, in her 60s, found it fell short of expectations after completing about one-third of the course. She demanded a refund. In March 2024, Dongguan Consumer Council agreed, determining that the

Tang Ting's centre in Beijing uses medical-grade salt to recreate the microclimate of a natural salt cave that helps people sleep better (Photo Courtesy of interviewee)

course lacked a scientific basis. It was not reported if Liu was refunded.

Some livestreamers have resorted to sexually suggestive content to attract customers in the name of "sleep-aid services." Their livestreams feature flirtatious and provocative banter, with some wearing revealing outfits such as black stockings and miniskirts and striking provocative poses in front of the camera.

In 2020, Lizhi, an audio-based social and entertainment platform, was forced to shut down its "sleep-aid" channel due to the surfeit of sexually provocative content, with some streamers even selling vulgar and pornographic materials.

This included audio and video aiming to trigger autonomous sensory meridian responses (ASMR). Commonly known as "brain tingles," they are relaxing sensations often induced by soft sounds such as ambient noise, whispering, tapping and visuals with specific textures. However, some incorporate this material into erotic content.

In response to reports from netizens, regulators held discussions as early as 2018 with several audio platforms, including Dragonfly FM and Missevan FM, demanding they clean up ASMR content related to obscene or vulgar material and enhance regulation and censorship.

Best Resters

Han Fang, director of the Peking University Sleep Research Centre, told *Minsheng Weekly* in September 2025 that official recognition of the profession signals a shift to create a system that covers "prevention, screening, intervention and rehabilitation," putting an end to industry chaos where it seemed anyone could practise sleep management. She said that sleep health managers will be split between professional sleep medical personnel and healthcare managers who provide non-medical interventions.

Lu Xinhua, chairman of the Art Therapy and Psychosomatic Rehabilitation Committee of the Guangdong Natural Medical Research Association, started a forum on art therapy in Shenzhen in May. She noted that people from all walks of life are flooding into the industry seeking opportunities. She stressed that professionalisation forms the foundation for the industry's healthy development.

"Once it becomes a profession, it will demand professionalism, which requires State-level certification. This will lay the groundwork for the industry's standardisation," Lu said.

Taking singing bowls as an example, she emphasised that establishing the long-term, evidence-based efficacy of the therapy requires validated medical assessments and follow-up studies.

But for now, according to Ma Ji, a doctor trained in both traditional Chinese and Western medicine, the efficacy of most healing therapies is yet to be supported by rigourous clinical trials.

The sleep healing industry is clearly still in its early stages, and Lu noted that the concept of healing is currently broad. However, when it comes to art therapy or sleep health management, the standards will eventually become clearer. "For practitioners in the market, both training content and healing practice should be standardised," Lu said.

In 2023, the Ministry of Human Resources and Social Security, which handles vocational certifications, included "sleep health manager" in its catalog for specialised vocational skill assessment. The assessment includes a written exam, covering areas such as sleep physiology and diagnosis of common sleep disorders, and an evaluation which includes the use of sleep monitoring devices and the formulation of intervention plans.

Sha's institution seized on the opportunity, and in 2024 began offering training for those wanting to gain certification and enter the industry. Sha mentioned that many doctors are now learning sleep health management.

Cai Chang of the China Sleep Research Society noted that the market chaos reflects the scarcity of sleep health specialists in China. He said in an interview with *Guangzhou Daily* that sleep health management will become a vast market with great potential as this new profession develops through standardised training, the establishment of working standards, certification of skill levels and the protection of labour rights.

"All in all, people hope to see a sleep healing market that is healthy, organised and people-oriented, where sleeping well is no longer an expensive luxury but a right everyone can access through scientific and reliable means," Lu said.★

AI

Video Gaga

Rapid advances in AI-powered video generation are boosting profitability for both model developers and creators helping to render a whole new industry

By Wang Shihan

On June 23, Zhou Peng woke up to his social media blowing up.

The night before, he had posted an AI-generated video titled "Animal Diving" on Douyin (China's TikTok), featuring a giraffe, a pig and a corgi performing Olympic-style dives.

Zhou, who creates AI videos for clients, never expected the clip to take off. "This video made me famous in the community and brought in more orders," he told *ChinaReport*. Each order takes him seven to 10 days to complete and costs clients 1,000 to 2,000 yuan (US$140-281), but the return can be 10 times higher, he said.

Zhou used Hailuo 02, an update to the AI video generation model released by Shanghai-based MiniMax. He said that earlier versions could not handle the computational fluid dynamics required for animating splashes.

Kling AI hosts the "From Vision to Screen" launch event for its Kling AI 2.0 Model in Beijing, highlighted by the official debut of Kling AI 2.0 Video Generation Model and Kling AI 2.0 Image Generation Model, April 15, 2025 (Photo by VCG)

The tool has shown early signs of commercial viability. Sheng Jingyuan, MiniMax's global business general manager, said Hailuo AI has seen revenue growth since its launch, from both consumer subscriptions and enterprise partnerships.

Others are reporting profits as well. Startup Alsphere told *ChinaReport* it has reached positive cash flow, with subscription revenue from over 100 million users covering most of its costs. Kling AI, released by short-video platform Kwai, maintained monthly paid revenues of more than 100 million yuan (US$14m) in April and May.

Just a year ago, the industry faced criticism for burning money without a mature business model. Now, despite fierce competition, profitability appears within reach.

Model Examples

Zhou only started in the field in late January 2025, initially making AI videos part-time. In June, he committed full-time.

He spends hours testing models to optimise each shot. When Hailuo 02 came out, he experimented with uploading animal images to create diving sequences, then enhanced the 18-second clip with AI-generated sports commentary. The result took two hours to produce, and racked up 60,000 likes with 210,000 shares.

The success sparked a wave of animal-sports content. In the following days, Douyin’s #PetOlympics hashtag surged to 540 million views, with over 9,000 creators contributing videos of animals competing in gymnastics, figure skating and high jump.

Cute pet videos like these are trending on international platforms too. On June 20, Instagram account @pablo.prompt posted clips of cats performing triple-and-a-half dives, each with distinct personalities, from lazy strolls to energetic leaps. The reel gained 250 million views and nearly 10 million likes.

Sheng said she had “predicted” that cat-diving videos would be a hit even before Hailuo 02 launched. “Creators have long wanted to make such videos, but no model could deliver the effect until now,” she said.

People at the MINIMAX booth, an AI technology company, discuss AI content creation and video production at the World Artificial Intelligence Conference held in Shanghai, July 29, 2025 (Photo by VCG)

“In the past, AI-generated video aimed to look realistic,” Sheng added. “Now audiences find obviously unreal videos just as entertaining.”

Other viral trends include generating plush versions of famous landmarks and chopping glass-like fruits. “It’s easy to copy an AI video. The real draw is novelty,” Zhou said. “That depends on how often platforms roll out model updates.”

Sheng emphasised that staying power comes not from viral templates but from model capabilities. “The key is whether the model can solve specific problems,” she said. “The success of Hailuo 02 lies in enabling high-difficulty physical movements.”

While Hailuo 02 and Kling AI mainly serve professional creators, Alsphere has taken a different route with its consumer app PixVerse, which boasts more than 40 million global users. Last October, PixVerse released a viral template that transforms users into the Marvel character Venom, sparking more than 1 billion video views worldwide.

Faster generation is also crucial. Alsphere says PixVerse can create a video in just 5-10 seconds. CEO Wang Changhu explained: “The key is lowering the barrier. Users only need to upload a photo and pick a template, no prompts required. Anyone can do it.”

In April, an AI-generated short drama by Yang Zheng won a competition and was selected for release on video platform Youku. The series has six episodes, each no more than two minutes long.

Yang handled every step. He used language model Claude 3.7 to refine the script and Hailuo 01 to generate visuals. The project took 25 days and cost him about 1,000 yuan (US$140), covering subscriptions for AI video platforms as well as software for dubbing, music and editing.

Two months later, Yang signed a contract with a major video platform to adapt comics into dramas. He is also producing AI-powered costume dramas and content tailored for overseas audiences, with plans to expand his studio.

“For AI-generated dramas, it’s still experimental,” Yang said. “My clients are mainly startups or newly created departments exploring AI-generated content. They want to seize opportunities but remain cautious.”

From Toys to Tools

The race to upgrade models is expected to benefit more creators like Yang, while also pushing model developers closer to commercial breakthroughs.

At a Beijing AI forum in June, Huang Weilin, director of ByteDance’s Seed Team for image and video generation, said that efficiency, retention and revenue are now the key benchmarks for commercialisation. Over the past year, download rates for user-generated images have jumped from the teens to over 60 percent, and 30-day retention for AI apps rose from just above 10 percent to around 40 percent.

Top AI video generation companies are projected to reach US$100 million in annual recurring revenue in 2025, with growth potential of US$500 million to US$1 billion in 2026. “The second half of 2025 or 2026 will be critical for commercialisation,” Huang said.

Sheng Jingyuan of MiniMax told *ChinaReport* that since the release of its latest model, "Hailuo AI has performed strongly in retention, engagement and conversion rates. Revenue has grown at both the consumer and enterprise ends, domestically and abroad." She added that video generation, among all multimodal technologies, has the fastest pace of upgrades and is proving especially promising.

Currently, most of Hailuo AI's users are creators from more than 100 countries and regions. On the enterprise side, clients include mid-sized domestic internet companies as well as traditional and tech firms overseas.

Alsphere's PixVerse app has attracted over 60 million users across 175 countries and regions, proving its business model works in most major markets. In June, it launched a domestic version for Chinese users.

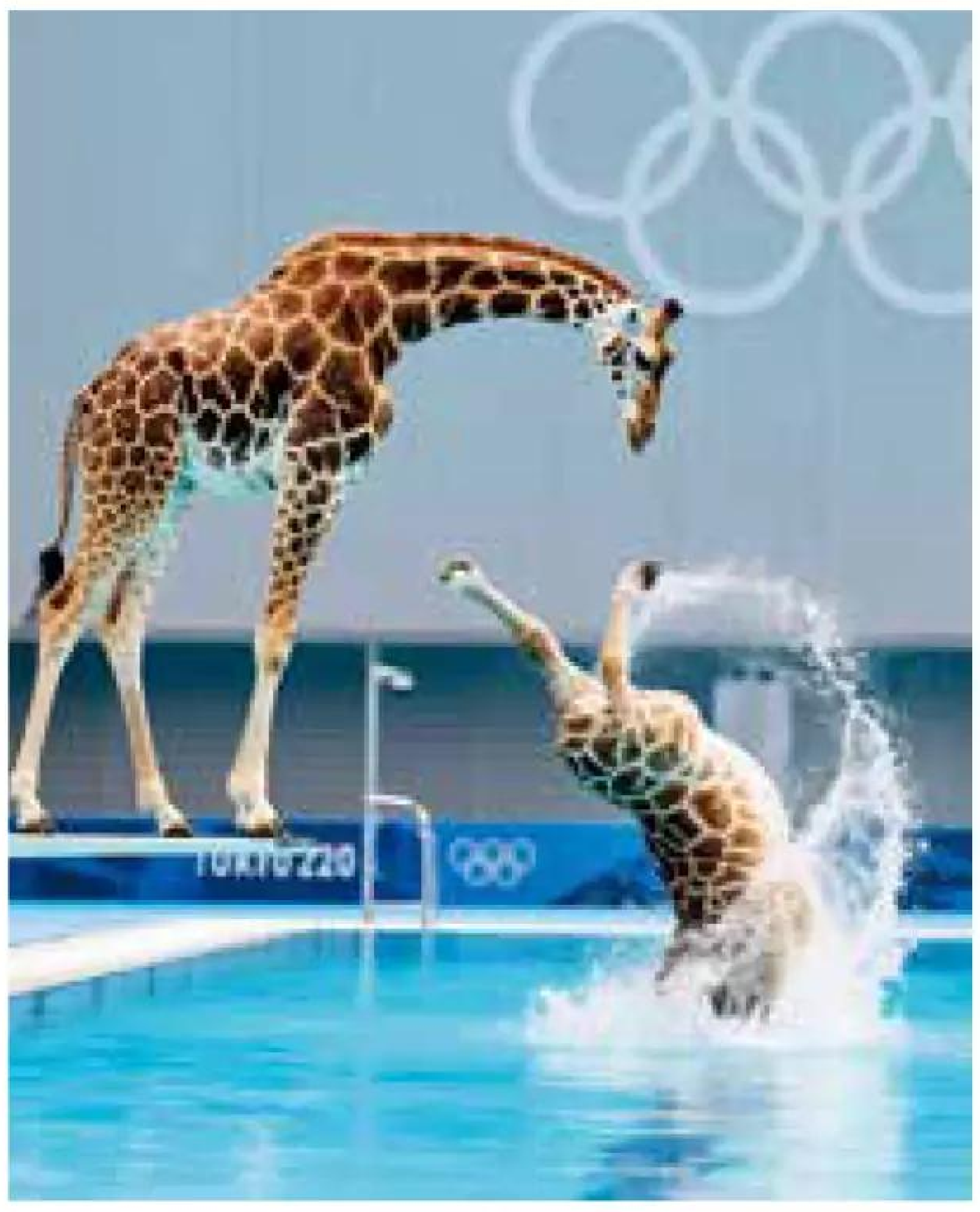
Alsphere told *ChinaReport* that profitability hinges on meeting users' basic needs and enabling viral content at low cost. "Chinese companies have an edge thanks to technical talent accumulated during the internet era and a deep understanding of pain points in the short-video ecosystem," the company said.

AI-powered videos are already being used in film and TV production, advertising, e-commerce, urban tourism, animation, education, gaming and entertainment. It shows that as new applications emerge, more creators are turning just-for-fun video generation into professional tools.

According to Fortune Business Insights, a global market research and consulting firm, the global AI video generation market was valued at US$620 million in 2024 and is projected to reach US$2.56 billion by 2032.

Making the Cut

But survival in the sector is far from a sure thing. Competition is intensifying and user loyalty remains low. With new models constantly released, creators frequently switch tools.



A screenshot of an AI-generated video shows diving giraffes

Zhou Peng told *ChinaReport* that in the first half of the year he used Kling AI for its high-definition smoothness and ByteDance's Jimeng AI, which excels at animation. Now he relies on Hailuo 02 for its special effects. "Never put your trust into just one platform. Different models lead at different times," he said.

In early July, Google's Veo3 announced an upgrade that allows it to generate video clips from a single photo, complete with voice and improved character consistency. Users quickly flocked to it for sci-fi and fantasy videos, which the model excels at.

Each model has its niche. According to Artificial Analysis, an independent platform that specialises in analyzing AI models, of the companies ranked in its text-to-video list, seven are based in China, six in the US, and one in the UK. In the image-to-video category, six are Chinese, five American and one is Israeli. Chinese firms including ByteDance, MiniMax, Kwai, Alibaba and Tencent all made the list.

"Models must stand out, either by excelling in a niche or offering something unique. Mediocre models will struggle to gain traction, whether in open-source communities or commercialisation," Sheng said.

Pricing also plays a role. A report by Guoyuan Securities noted that subscription prices for mainstream AI video models range from 0.2 to 1 yuan (US$0.03-0.14) per second, already far cheaper than traditional film and TV production. Leading companies continue to push for more cost-effective products. For example, MiniMax's new NCR architecture, launched in June, gave Hailuo 02 triple the parameters and quadruple the training data of its predecessor, while keeping prices lower than competitors.

"It's a tug-of-war, a close-quarters fight where every company, big or small, must seize every opportunity," Sheng said. "In this environment, you can quickly tell which companies are on the fast track by how aggressively they release stronger models and build a positive flywheel of user growth and feedback."

At the start of 2024, the debate was whether any model could surpass Sora, the video generation tool released by OpenAI. Now the market has exploded into a landscape of fierce competition.

In March, US venture capital firm Andreessen Horowitz released its ranking of the world's top 100 AI consumer apps. Hailuo AI and Kling AI placed 12th and 23rd for web-based products, with Sora at 37th. Among mobile apps, PixVerse ranked 52nd.

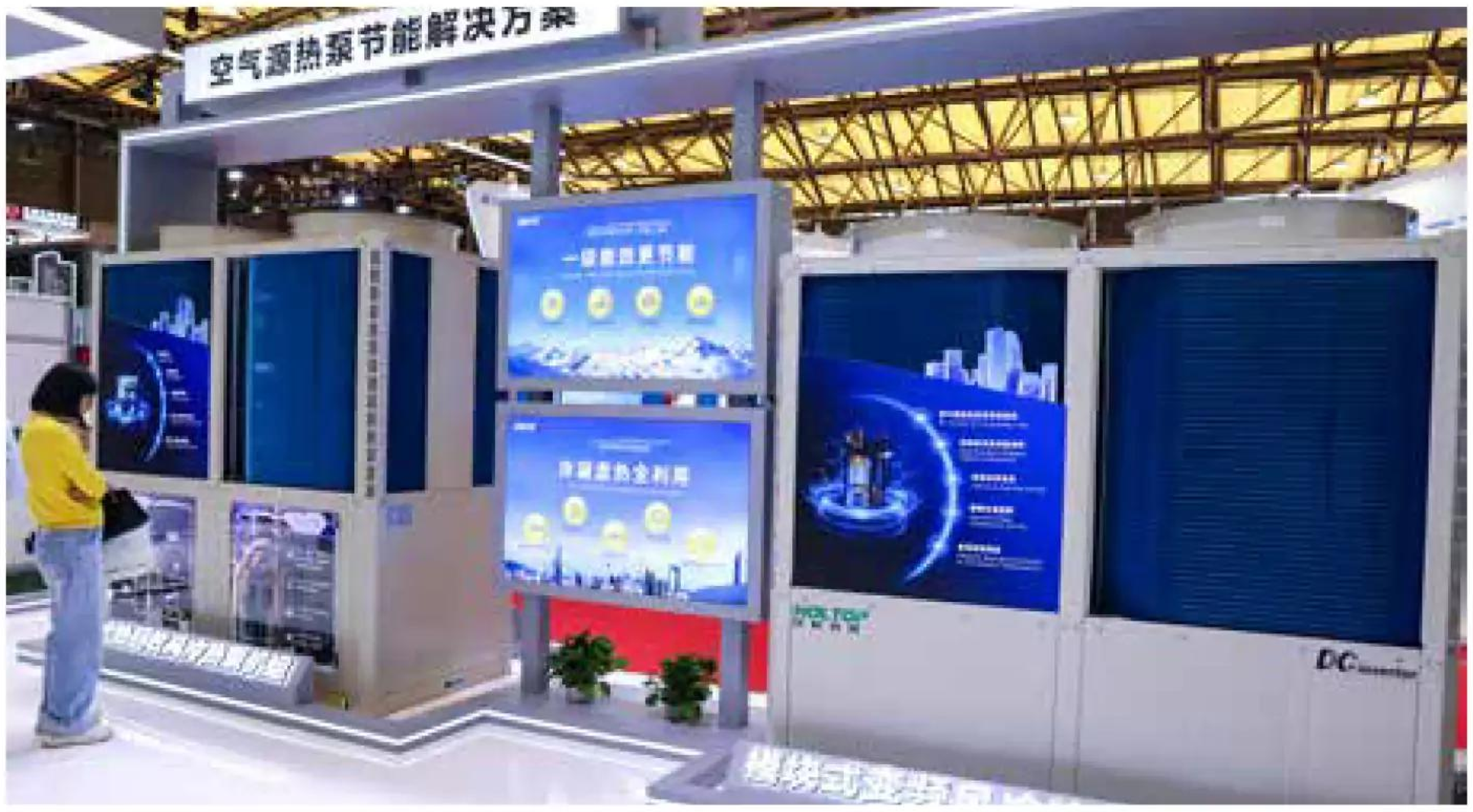
"When I started, investors and industry experts told me video generation wouldn't be commercially viable for five years," said Alsphere CEO Wang Changhu. "Two years later, I'm still here. I feel lucky, but also under constant pressure to survive."

Now, Wang said, the challenges remain the same: "How can we stay in the first tier? How should we raise and spend funds efficiently? How can we fast-track commercialisation? How should we compete with giants? How should we deal with open-source competition? These are still the questions ahead."★

Heat of the Moment

Seen as a solution to global net zero goals, as well as an efficient and cheap way to heat and cool buildings, heat pumps are expected to be a crucial technology. But as uptake is slower than expected, the industry says more government support is needed, as well as technological breakthroughs

By Zhou You and Xie Ying



Holtop, a leading manufacturer of air to air heat recovery equipment, demonstrates its energy-saving air-source heat pump solutions during the China Refrigeration Expo held in Shanghai, April 29, 2025 (Photo by VCG)

Despite the sweltering summer highs of 39 Celsius outside in mid-June, inside the stadium people felt cool and comfortable.

Interior temperatures at the Oriental Culture Stadium in Shijiazhuang, capital of North China's Hebei Province, are kept constant by the 20 heat pumps installed on top of the five-storey building.

The stadium manager, who did not wish to reveal his name, said the system was installed over a year ago, and maintains an ambient temperature of 18 Celsius all year round.

In Zhao County in Shijiazhuang, China's biggest centralised heating system using heat pumps covers four square kilometres. It was installed six years ago.

Running on electricity, heat pumps move heat from an air or ground source, working like a fridge in reverse. They can heat and cool, and if they are powered by green energy such as a solar power and battery storage system, are zero carbon. They can also use waste energy, such as heat from a factory or data centres.

Theoretically, because heat pumps transfer heat and do not generate it, they are much more energy efficient than regular boilers and are cheaper to run. A heat pump has a compressor to move a refrigerant through a refrigeration cycle, and a heat exchanger, which extracts heat from the source, delivering heat to buildings via radiators or underfloor heating. They can be used in industry too, delivering heat in the form of steam or hot air and water.

Large-scale heat pump systems like those in Shijiazhuang are rare in the country, due to costs and technological barriers.

In March 2025, China's National Development and Reform Commission issued an action plan to promote heat pumps, calling for technological breakthroughs in high-power, high-temperature units and expanded use scenarios by 2030. Experts said the industry's growth depends on increased government support and how well it upgrades technologies to seize market opportunities.

A Lot of Hot Air?

Yue Jianfu, former director of the heat supply department of Shijiazhuang's urban management bureau, said the city started developing heat pump systems in 2015, when they were installed in a residential community in a high-tech industrial zone.

Yue told *ChinaReport* that heat pumps were first used in areas where it was hard to extend traditional heating systems.

China's energy transition began to speed up in 2014, according to Yue, as the central government promoted energy production and consumption reform. At that time, Shijiazhuang, like much of northern China was home to heavy industry and extensive coal mining and plagued by heavy air pollution. Rural areas still relied on coal for winter heating.

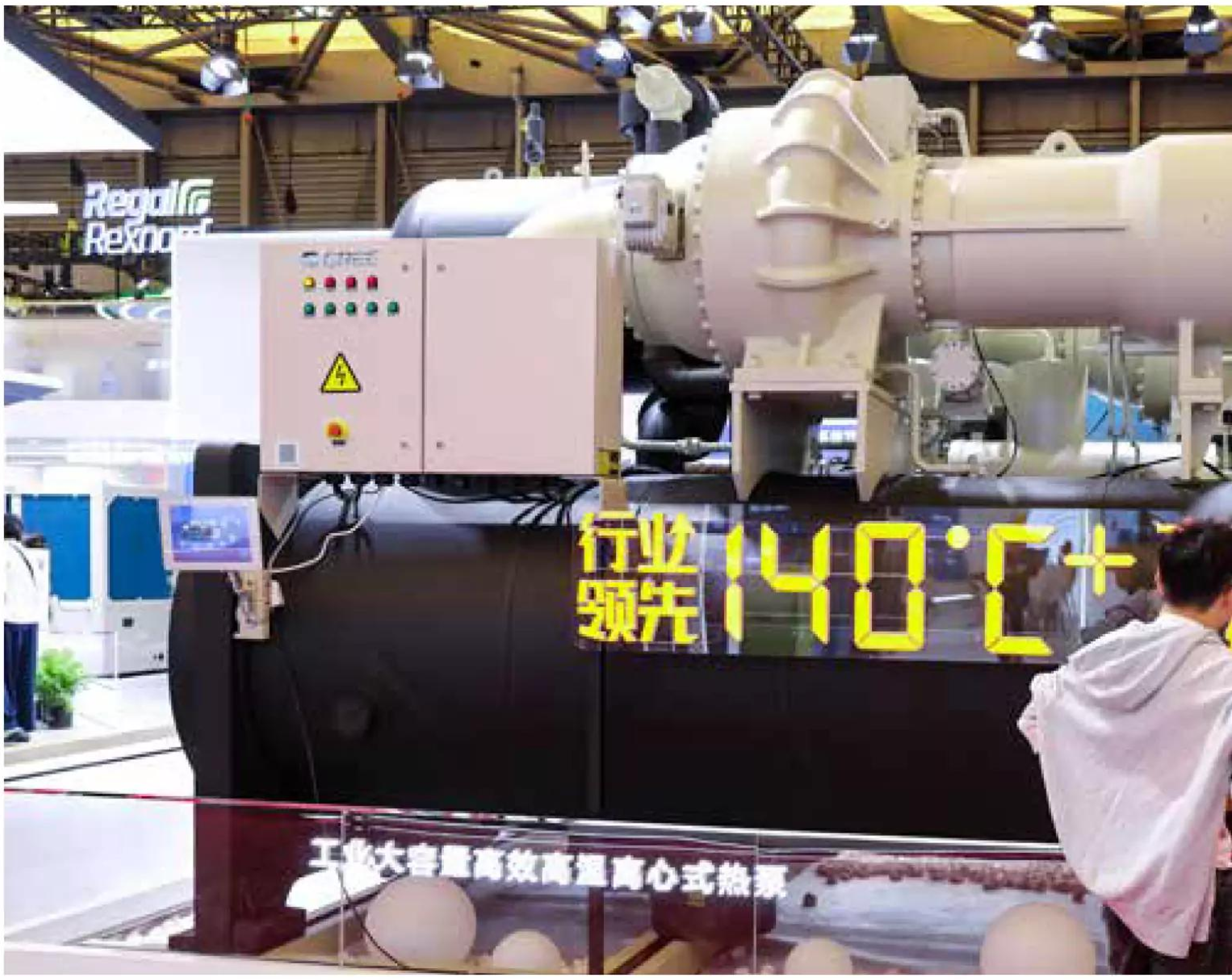
When government renewal programmes started to demolish areas of old village housing which had been engulfed by urban expansion, construction of new apartment blocks provided an entry for heat pumps to be installed.

"In 2010, the area of Shijiazhuang covered by the centralised government heating system was 67.41 million square metres, but it shot up to 230 million square metres in 2025," Yue said.

"In most northern cities, rapid urban expansion has brought about a sharp increase in demand for heat supply, and China's carbon [reduction] targets have provided a good opportunity for the heat pump industry," he added.

To control air pollution, Shijiazhuang demolished several big thermal power plants and central heating boilers in downtown areas, and developed a programme that transfers surplus industrial heat from suburban plants to urban areas. In 2017 when the central government released its action plan on air pollution control, Shijiazhuang launched a clean heating programme to replace coal use with clean energy. Similar programmes were launched in other cities that suffered from heavy air pollution, like Beijing and Tianjin.

Clean heating includes electric and natural gas-powered heating. But as gas heating requires a pipe network and is affected by global price fluctuations, the "coal-to-natural gas" program did not run as smoothly as expected.



A worker works on the assembly line for ultra-low temperature variable-frequency air-source heat pump units at Gansu Hanchang New Energy & Environmental Protection Technology Company, Zhangye, Gansu Province, June 7, 2024 (Photo by VCG)

"Many suburban or remote and rural areas didn't have a gas pipe network, given the huge cost of construction and maintenance. But every corner of China has electricity, so 'coal-to-electricity' is more suitable for those areas," a retired engineer surnamed Gao, a former employee of a coal-fired power plant in Beijing, told *ChinaReport*.

Media reported that in the winter of 2017, the "coal-to-gas" programme was stymied by a rush to replace coal heating systems in homes before other systems were in place – and lack of natural gas. China's self-sufficiency ratio of gas was 59 percent in 2023, according to a 2024 report by the National Energy Administration.

Experts warn that gas is not always the best solution for heating in some remote areas, and that it still emits air

Gree, a leading Chinese air conditioner manufacturer, showcases its high-capacity, high-temperature centrifugal heat pump for industrial use at the China Refrigeration Expo held in Shanghai, April 29, 2025 (Photo by VCG)

pollutants like nitrogen oxide, though at much lower levels than coal burning.

Wang Zhigao, urban and regional development executive director of the Energy Foundation (EF China), an independent organisation focused on clean energy and emissions reduction, told *ChinaReport* that a heat pump system is more flexible than a traditional heating system. They can either be installed in each household or homes can be part of centralised heating networks like in Shijiazhuang's Zhao County.

According to engineer Gao, Beijing's "coal-to-electricity" programme started in 2003, mainly in suburban and rural areas. The programme has since accomplished 80 percent of the required replacement.

"We installed our first [household] heat pump in 2015. Before that, we used coal... and we had to spend so much time transporting and cleaning up [storage areas]," Lü Chao, a resident in a village in the outskirts of Beijing, told *ChinaReport*.

"The government is really promoting the 'coal to electricity' programme by subsidising this transition. Since 2015, 100 percent of the households in our village have shifted to heat pumps," he said, adding that the government provided pumps to each household for free and gave villagers subsidies for electricity use.

"In my old home, which was about 70 square metres, we had to spend at least 4,000 yuan (US$574) just for heating each year based on the coal price 10 years ago. That was for about three tons of coal. Since we started using the heat pump, we've been paying less than 3,000 yuan (US$429) for electricity annually," he said.

Lü and other villagers told *ChinaReport* that their homes feel warmer now than when they burned coal, and the heat pumps are more stable and convenient.

Energy efficiency is expressed by the coefficient of performance (COP). For heat pumps, it is measured by dividing the heat output by the electrical energy input. The higher the COP, the more efficient it is.

"The COP of heat pumps is usually 2.5-4, and maybe higher than 4 when the surrounding environment is particularly suitable. It means each unit of electricity consumed has an output of four units of heat," Zhao Hengyi, deputy director of the China Energy Conservation Association (CECA), told *ChinaReport*.

"In North China, heat pumps may maintain the temperature at 18 C or above, and they can operate even in extremely cold [northern] areas like Harbin and Mohe where it's often -30 C in winter, though the COP may be a bit lower," Wang Zhigao said.

"Compared to air conditioners, heat pumps are designed to apply to a wider range of areas, especially in extremely cold areas where heat pumps are much more stable and efficient," Gao said.

Slow Take-up

But adoption of heat pumps for centralised heating networks has been slow, which accounts for only 7 percent of the country's total heat supply, Wang Zhigao said.

He attributes the low take-up to existing subsidies given to consumers, which make heat pumps less attractive than conventional energy sources. "Without the subsidies or other strong support polices, in most cases, traditional energy sources still have price advantages," Wang said.

"Many local governments believe that electricity is a higher-quality type of energy than heat, so officials may think that using electricity to supply heat is a waste of energy," Yue told *ChinaReport*. "Furthermore, heat is only needed in winter and traditional centralised heating has been trusted by people for decades. Alongside the high cost of infrastructure and facilities, local authorities feel reluctant to make such a big shift," Yue said.

In many Chinese residential compounds, centralised heating is provided by State-run companies, using systems that leave residents unable to control temperatures in their individual units. The heat, usually supplied by water-heated radiators through a central network of building pipes, is switched on and off on certain dates according to region and average temperatures, and residents pay a fixed fee for the whole winter based on the size of their flat. In rural areas, and those south of the Yangtze River, residents have to arrange their own heat supply, as it was deemed these areas did not need central heating.

Working in the sector for 14 years, Yue said that the current heating system, which mostly uses coal to heat water, suffers from high heat loss through pipes, inflexibility for users who cannot adjust the temperature, and uneven distribution across households, especially in old compounds with outdated heat supply networks.

"Many central heating pipes are very long, with a diameter of over 1.6 metres, and the water weighs thousands of tons, so it's hard to precisely control the temperature. The heat supply networks we have now are usually very crude and imprecise," Yue said.

Such disadvantages may be further aggravated if they shift to centralised heat pump networks without necessary hardware like radiators and thermostats, according to Yue.

Gao agrees. "Central heat pump units need more space than a coal-fired boiler room, since the equipment is very large and the units need lots of room around them [for air circulation], otherwise they may cause a 'cold island' or 'heat island effect,'" he said.

The "island effect" means the temperature of areas near pump units becomes obviously lower or higher than surrounding areas, which reduces the efficiency of heat exchange.

To solve that issue, enough space for air circulation is required, Gao said.

That is why Zhao County's big pump units were built on an empty lot, with an underground parking lot beneath. The heat pump units sit on top in the open air. However, this model is difficult to achieve in crowded downtown areas.

"If a building doesn't have enough space for [central] heat pump units, it's difficult to use heat pumps, as their efficiency is much reduced in narrow spaces. Meanwhile, we have to consider the noise problem. These problems are actually similar to those of big air conditioners," Wang said.

Zhao believes that replacing coal heating with central heat pumps might not work. "The ideal is to install separate heat pumps for each household that support separate adjustment and use," he said.

But interviewed users of household heat pumps told *ChinaReport* that without subsidies, they are too expensive to buy. One user who refused to reveal his name told *ChinaReport* that the heat pump in his 100-square metre flat cost over 20,000 yuan (US$2,857). Although their first pump was free, it stopped working after about seven years, and the subsidy to get a new one was only 6,000 yuan (US$857), one-third of the cost.

"If we didn't get the electricity subsidy, we couldn't even afford to keep it on all day," he said. Subsidies for electricity to low-income households vary by region. In Beijing's outer Huairou District, residents receive 0.1 yuan for every non-peak unit of electricity used.

"If we use heat pumps to heat and cool a 100-square metre, two-bedroom flat, the basic equipment may cost more than 20,000 yuan (US$2,857), while running costs depend on how much domestic electricity costs in the area. Heat pumps will only prove they are more effective if domestic electricity charges are low," Wang Shuguo, a heat supply engineer at the Institute of Tsinghua University, Hebei Province, told *ChinaReport*, adding heat pumps now usually last for 10-15 years.

Not Pumped

Zhao said the heat pump industry needs much more promotion so it can compete with other energy systems and increase market share. "We can't survive on government subsidies only," he said, adding that the heat pump market makes around 30 billion yuan (US$4.3b) in sales each year, with around 70 percent from private purchase.

A director of a heat pump enterprise in Beijing who did not reveal his name told *ChinaReport* they have to look for clients themselves.

"It's very hard to promote heat pumps to ordinary residential compounds – maybe developments of detached houses are more suitable as they're bigger," he said, adding that heat pumps are now often used to supplement traditional heat supply, with installations in new buildings or industrial zones.

Interviewed experts suggest heat pumps should expand into southern areas of China where there is no winter central heating supply, but temperatures can still be low.

"After we make core breakthroughs in high-power, high-temperature pumps, high-efficiency compressors and new refrigerants, the use scenarios for heat pumps may extend to cold-chain transportation and food processing," Wang Shuguo said.

He pointed out that utilisation of surplus heat is a solution for China's carbon targets. "Surplus heat from urban and industrial wastewater and gas, and from data and computing centres, is being emitted. There's a great deal of potential in collecting and recycling this scattered and low-quality heat, and heat pumps may be key to recycling it," he said.

According to the government's action plan, upgrading the heat pump industry will focus on the design, production and maintenance of pumps, with use of AI and smart tech encouraged.

The anonymous technological director of the Beijing heat pump enterprise said that several enterprises have already tried to use AI to more precisely control heat exchange temperatures in pumps, but they are not on sale yet.

"We expect that future households will use just one heat pump for heating, cooling and hot water," Wang Shugao said. "If we make technological breakthroughs in heat storage, we can also store heat emitted from cooling for use in winter. That's pretty much zero cost, and it means heat supply enterprises will become an energy service supplier," he added.

Internationally, heat pumps are considered crucial to achieving carbon neutrality goals, Wang Zhigao said. Based on the International Energy Agency's Net Zero Emissions by 2050 Scenario, heat pumps should account for 52 percent of the world's heat supply market. In China, heat pumps should account for around 30 percent of residential and commercial heat supply. Given fluctuating natural gas prices influenced by the Russia-Ukraine war and the increasingly urgent demand to fight climate change, some countries are doing more to promote heat pumps.

Many German regions offer generous subsidies for homeowners who want to install heat pumps.

"In March 2025 I attended a heat supply expo in Europe and learned that people in Germany could receive a government subsidy of up to 50 percent of the price of a new heat pump," Wang Zhigao said.

A German law in 2024 offered subsidies of 30 percent of the cost of installation, with a further 20 percent offered to those replacing a gas or coal system before 2028. Low-income households can apply for more assistance, according to German broadcaster Deutsche Welle in September 2024.

Wang Zhigao said the Chinese government is gradually providing institutional support for heat pumps, including its push to exchange old equipment and appliances for new, more environmentally friendly models, which includes heat pumps in some regions.

"In the future, heat pumps may be preferred for heat supply when ultra-low-energy-consumption buildings and zero-carbon buildings are further promoted and expanded. This way, we can reduce reliance on large-scale centralised heat supply systems and heat networks," Wang Zhigao said.

But more action is needed, according to Yue. "The heat pump industry still needs support from government policies and standardisation to encourage enterprises to upgrade their technologies and commercialise their products. Meanwhile, the industry needs a fair and reasonable environment for equal competition with other means of heat supply. We expect that in the future, infrastructure investment, energy prices and subsidies for different means of heat supply will undergo a shake-up, and the market will decide resource allocation and technology choice," he said.

"We could be on the cusp of rapid development in the heat pump industry," Wang Zhigao said.★

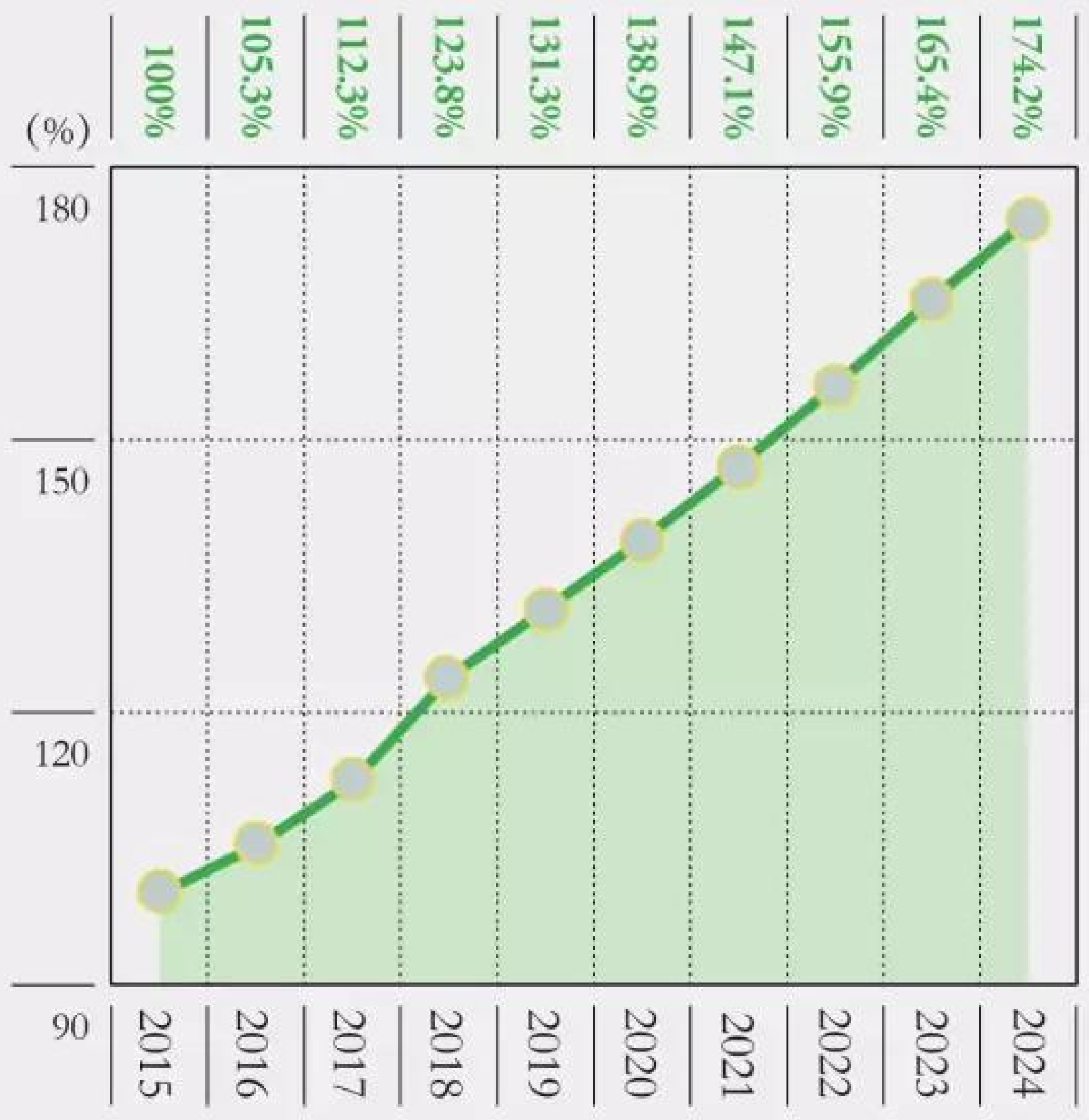
China By Numbers

5.3 percent

Increase in China's innovation index in 2024 over the previous year, which stood at 174.2 (take 2015 as 100)

Source: National Bureau of Statistics of China

China's innovation index between 2015 and 2024

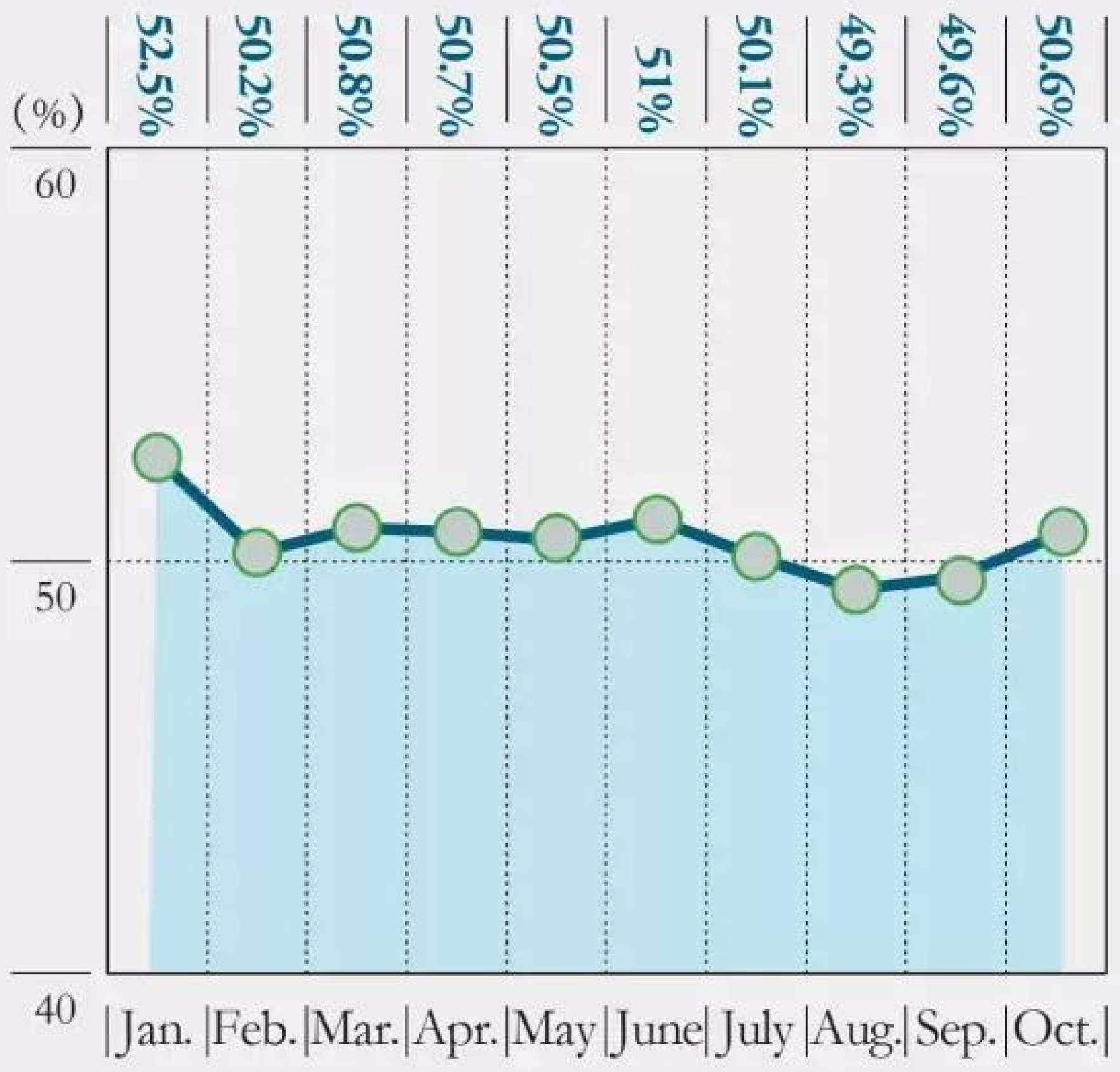


50.6%

China's warehouse storage index, an indicator of the warehouse storage sector's performance, in October 2025, 1 percentage point higher than the previous month

Source: China Federation of Logistics & Purchasing

China's warehouse storage index between January and October 2025



13 percent

Year-on-year growth in China's new overseas contracts for energy-saving, environmental protection and clean energy projects in 2024, totalling nearly US$50 billion

Source: Ministry of Commerce of China

14.6 percent

Year-on-year rise in China's excavator exports between January and September 2025, totalling 84,162

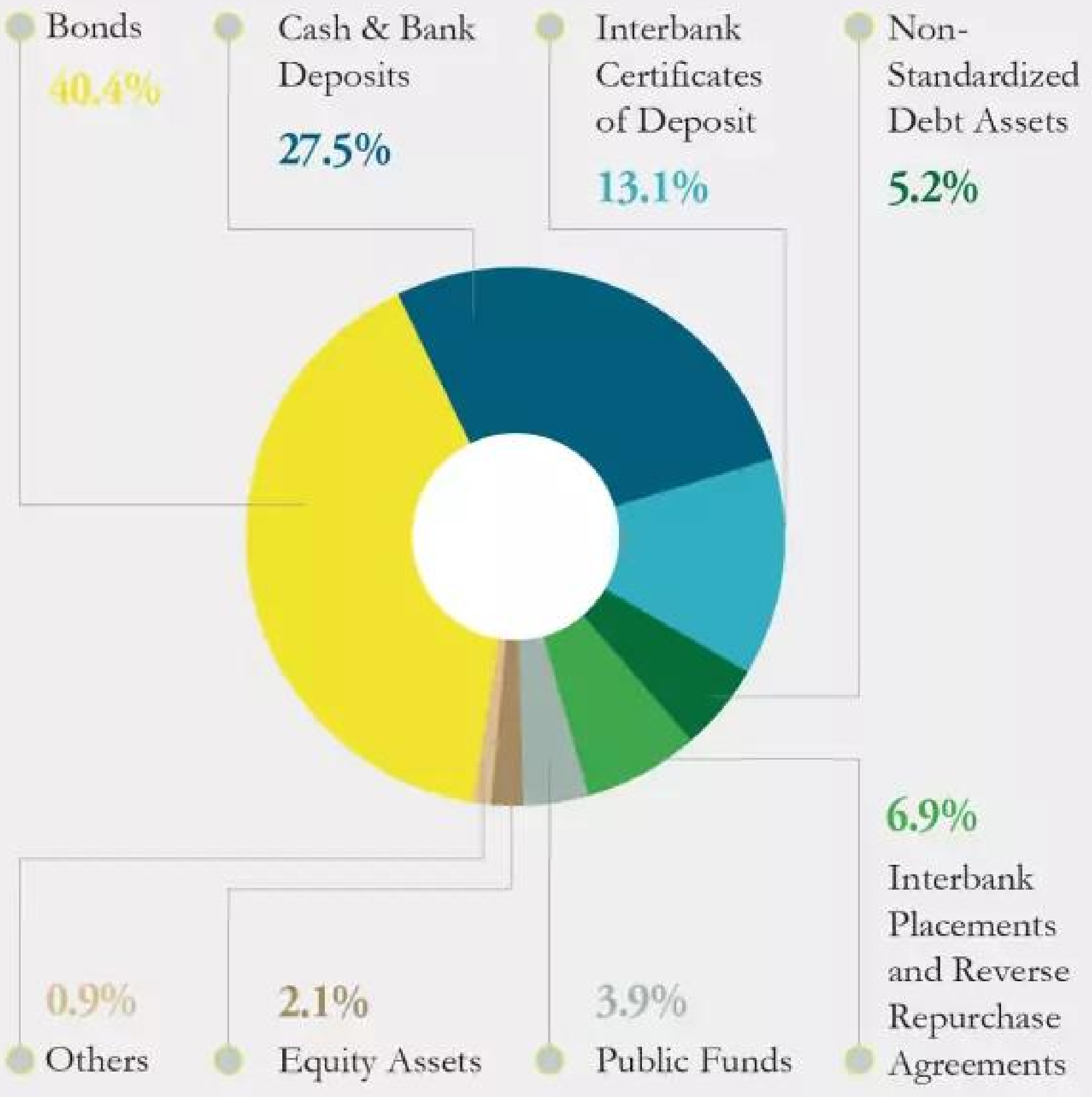
Source: China Construction Machinery Association

US$4.5 trillion

The balance of wealth management products of China's banking system by the end of the third quarter of 2025, a year-on-year rise of 9.42 percent

Source: China Banking Wealth Management Registration and Depository Centre

Portfolio composition of the wealth management products of China's banking system by the end of the third quarter of 2025



Animation

Zeroes to Heroes

Through its unconventional retelling of *Journey to the West*, the acclaimed 2D animated feature *Nobody* captured millions of hearts with its distinctive ink-wash aesthetic while spotlighting modern society's underdogs

By Li Jing and Yi Ziyi

The cover of *Nobody* (Photo by VCG)

Few could have predicted 2D animated feature *Nobody* would become quite the somebody by dominating the summer box office and earning a place in the history of Chinese animation.

Directed and written by Yu Shui of the Shanghai Animation Film Studio, *Nobody* is adapted from the 2023 animated anthology *Yao - Chinese Folktales*. Released on August 2, the film follows a little pig monster who gathers three other creatures to form a motley crew of pilgrims that sets off on their own "journey to the west."

Without dazzling 3D effects or complex modeling, *Nobody* grossed 1.65 billion yuan (US$231m) by August 15, becoming the highest-grossing 2D animated Chinese film in history. It had reached 1.71 billion yuan (US$240.7m) by November 10 in China.

Instead of spotlighting legendary figures such as Ne Zha or the Monkey King, *Nobody* turns the focus to the anonymous side characters who usually lurk in the background of mythological tales. Focusing on their dreams and disillusionments, the film brings a team of would-be sidekicks into the spotlight.

About Us

Nobody is a playful reimagining of *Journey to the West*, the 16th-century Ming Dynasty classic written by novelist Wu Cheng'en. The original novel is a fantastical retelling of the real-life Buddhist monk Xuanzang's 7th-century pilgrimage to India to retrieve sacred scriptures. In the story, Xuanzang travels with three supernatural disciples: the Monkey King (Sun Wukong), pig demon Pigsy (Zhu Bajie) and river ogre Sandy (Sha Wujing), who protect him from countless monsters along the way.

Founded in 1957, Shanghai Animation Film Studio is China's oldest. It has produced numerous works inspired by *Journey to the West*, such as *Havoc in Heaven* (1961), *The Monkey King and the Fruit of Immortality* (1981) and *The Monkey King Conquers the Demon* (1985). The films all centre on mythic heroes, especially the mischievous Monkey King.

Nobody tells a different kind of story. It follows four nameless monsters living in obscurity on fictitious Langlang Mountain: a pig demon, a toad spirit, a weasel spirit and a gorilla monster. After offending the mountain's king, they are forced to flee. Disguised as Xuanzang and his three disciples, they embark on their own westward journey.

The four little demons embody the struggles and ambitions of modern-day Chinese youth. The toad spirit dreams of a stable, predictable job serving the mountain king, much like young people who pursue security in government or State-owned enterprises, no matter how dull the work. The pig monster,

Top: A visitor takes photos of merchandise for the film *Nobody* at the 2025 International Film & TV Market held at the Shanghai Exhibition Centre, Shanghai, June 24, 2025 (Photo by VCG)

Above: A Luckin Coffee outlet in Dongguan, Guangdong Province uses *Nobody*-themed cups and paper bags in a promo deal to promote merch for the film, August 11, 2025 (Photo by VCG) unable to land a job on Langlang for years, seeks out other opportunities beyond the mountain, only to be repeatedly humbled by reality, a reflection of those chasing uncertain opportunities outside the system.

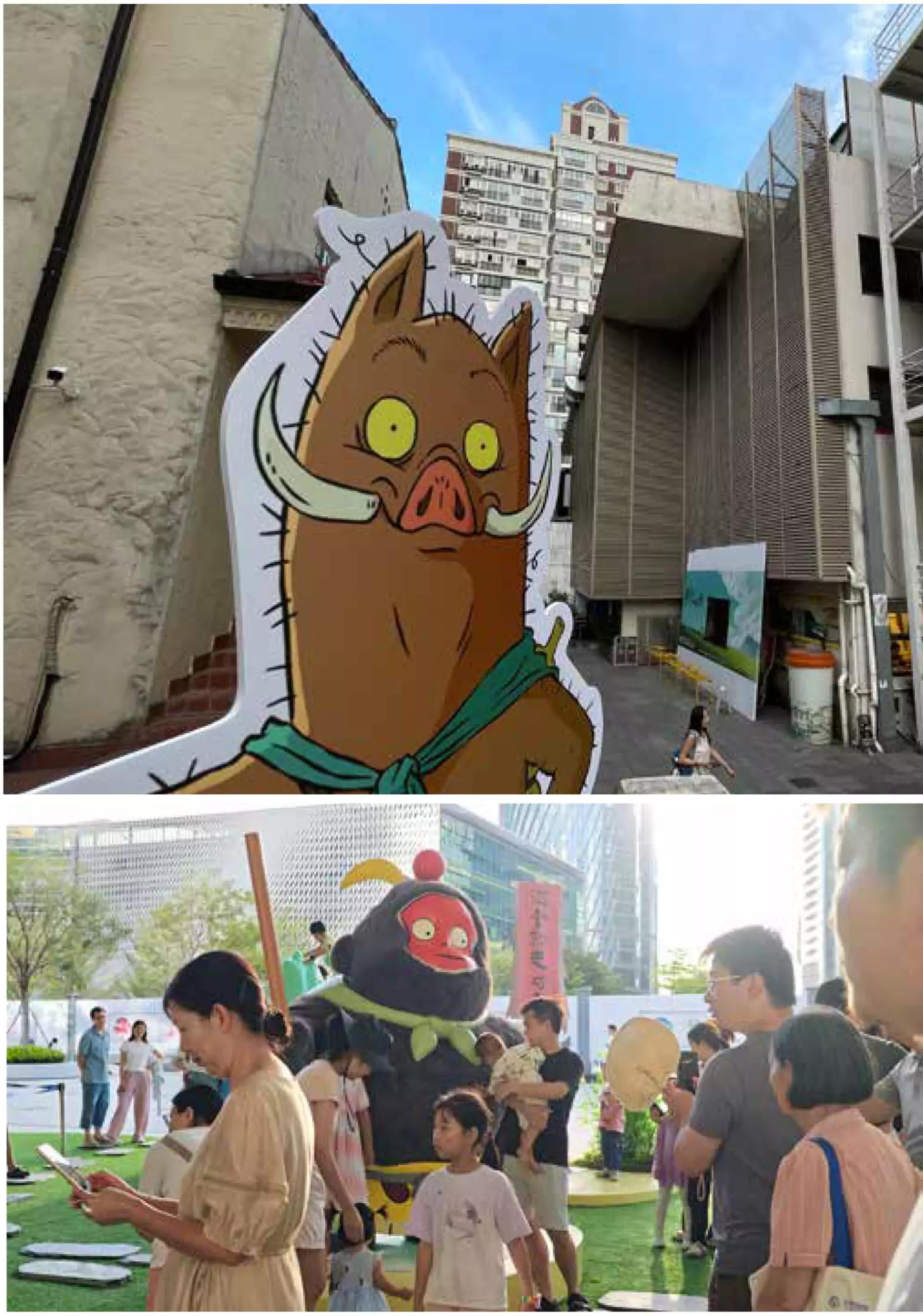
The gorilla, large and strong but socially awkward, finds it difficult to communicate or fit in. The weasel, an aimless chatterbox, gradually gains deep understanding about justice and the meaning of life.

"Through portraying these minor demon characters, I wanted to show the stories, struggles and predicaments of ordinary young people," Yu Shui, the film's director and screenwriter, told *ChinaReport*. "They are grassroots underdogs on Langlang Mountain, and most people in the world are 'nobodies.' Naturally, their stories resonate with wider audiences."

Executive producer and art director Chen Liaoyu agrees: "We've read and watched so many tales about big heroes in the past. But in reality, most of us are nameless and unknown. Isn't it just as worthy to tell a story about us?"

The film earned a high score of 8.5/10 on Douban, China's leading media review platform, with viewers praising its empathy and down-to-earth spirit. "They may be marginalised in society, but they're the pride of their parents," wrote netizen "Xiao Jin." "They may be imposters on the road west, but they're the true protagonists of their own lives."

Another user, "Duduxiong," shared: "The film is more moving than most live-action dramas. Beneath its humour lies a quiet sadness. These underdogs don't even know what they're fighting against. There are no lighthouses guiding their way, yet they still struggle to change their fate, even if nothing really changes. It's an allegory of ordinary life."



A *Nobody*-themed exhibition is held in the newly opened Eye of the Bay Area bookshop, Shenzhen, Guangdong Province, September 27, 2025 (Photo by VCG)

Ink-washed Up

Over the past decade, China's animation industry has been dominated by 3D films that dazzled audiences with technical breakthroughs and box office success, from *Monkey King: Hero Is Back* (2015) to *Ne Zha 2* (2025). Amid this wave, 2D animation like *Nobody* has been rare.

For Chen Liaoyu, an animated work's success does not depend on its form, but on how well that form serves the story. "Each creative team has its own DNA," Chen said. "Some are technology-driven, others are art-driven. The *Nobody* team belongs to the latter."

Posters and promo materials for the film *Nobody* are displayed at Yongle Plaza in Shanghai, August 9, 2025 (Photo by VCG)

Nobody stands out for its artistic excellence and the lyrical beauty of traditional Chinese ink-wash painting. Created by more than 600 artists, the film involved over 1,800 storyboards and 2,000 hand-drawn scenes.

Its landscapes of stones, trees, mountains, rivers and villages are rendered in delicate, poetic brushwork, while the characters are drawn with fine-lined precision.

"Look at these four little demons. They look casual, vague and insignificant. That's who they are," Chen told *ChinaReport*. "If we used 3D modeling, they'd appear too sleek and smooth. They're not glamourous heroes but nameless nobodies. 2D drawing gives them a sense of clumsiness, which fits them perfectly."

"The lines of the little pig monster's two tusks, for instance, give a touch of freehand sketching. That's the unique advantage of 2D animation. It creates a sense of human warmth and intimacy," Chen added.

Nobody dethroned Makoto Shinkai's *Suzume* (2022) to become the highest-grossing 2D animated film in Chinese box office history. Tao Ye, deputy dean of the School of Art at Jinan University in Shandong Province, hailed it as "a milestone in Chinese animation."

In his essay "The Reawakening of Chinese 2D Animation: The Meaning of *Nobody* in Cultural History," Tao wrote that while Chinese 3D animation has gained global recognition, 2D animation has long been sidelined by investors and audiences as a "sunset art form," seen as neither advanced nor profitable.

"When *Nobody* broke the 2D box office record for China, the achievement didn't belong to this film alone," Tao wrote. "It more honored the 65-year legacy of ink-wash animation dating back to the 1960 classic short *Little Tadpoles Search for Mama*, produced by the Shanghai Animation Film Studio."

"*Nobody*'s success has restored cultural pride in 2D animation. It's no longer a 'pre-modern' form abandoned by the market, but has been reawakened in the digital era. This film not only achieved commercial success, but, more importantly, has once again weaved ink-wash aesthetics into the emotional fabric of contemporary audiences," he wrote.

Blank Space

For director Yu Shui, presenting "Chinese aesthetics" means far more than piling up traditional motifs like red lanterns, stone lions or misty mountains. He likens these visible elements to "the tip of an iceberg," while the deeper spirit of Chinese art lies beneath, unseen but essential.

"It's totally fine for animators to display Chinese-style elements like mountains and rivers drawn in traditional ink-wash painting style," Yu told *ChinaReport*. "But beneath these elements, we have a much broader, invisible mountain of aesthetics and culture. That is the most significant part of a work. Only when we have explored the deeper facets of this invisible mountain will the authentic Chinese art and culture be revealed in a natural way."

One key concept, Yu explained, is *liubai*, or "leaving blank space." In Chinese painting, the untouched areas of a canvas hold as much meaning as the inked ones, inviting imagination and reflection.

Yu applied this philosophy narratively in *Nobody*: the film never reveals the names of its four little demons.

Many viewers found the film's ending particularly moving. A Douban user, "Ku Te," wrote: "After defeating the main antagonist, the four little demons lose their powers and revert to their animal forms. They never even learn each other's names. They remain nameless nobodies, their fates unchanged. The sun rises again, as if nothing ever happened."

Yu said he wanted to challenge the tendency to stereotype and judge, especially towards marginalised groups. In traditional myths, demons and spirits are typically cast as villains, but *Nobody* asks viewers to reconsider.

"When it comes to demons, we often think of stereotypes like 'bad' and 'evil.' Perhaps that's not true," Yu said. "Many of those nameless, little demons perhaps just want to make a living. They have their own life, their own frustrations and their own families."

He added that such vilifying of regular people happens online. "Nowadays, individuals are so easily labelled," Yu continued. "Particularly on the internet, it's possible to sully or even completely ruin someone's reputation just because of some minor mistake they happened to make. But people are complex and layered just like the little demons in our story."

"I hope audiences can change their perspectives and view the world with more empathy," Yu added.★

Ancient Gold Masks

Facial Recognition

An exhibition of ancient Greek artefacts, including a replica of the famed Agamemnon's Mask, sheds light on the similarities between the great ancient Bronze Age civilisations of China's Sanxingdui and Mycenae, and their use of gold in many artefacts

By He Shaoqing, Tao Siyue and Du Guodong

One of the most iconic images of the Greek Bronze Age is Agamemnon's Mask, a death mask made of a thin sheet of gold, unearthed in 1876 at the Bronze Age site of Mycenae, which was active from 1750-1050 BCE in the Peloponnese region to the west of Athens.

While well-known to many, Agamemnon's Mask has two lesser-known lookalikes, found thousands of miles away in Guanghan, near Chengdu in Southwest China's Sichuan Province. Both gold masks that were excavated at the Sanxingdui Ruins site in 2021 represent the ancient Shu culture, which was active from around 4,500 to 2,900 years ago.

From July to December 2025, visitors to Sanxingdui Museum have been able to compare these gold masks, as a replica of the ancient Greek relic has been included in an exhibition showcasing the Mycenaean civilisation. The original is in the National Archaeological Museum of Athens.

The heavier of the two Sanxingdui gold masks is missing half, but still weighs 280 grams. It is estimated that the whole mask would have weighed more than 500 grams, making it the biggest and heaviest gold object of its time. The full gold mask is much lighter and thinner.

At the Sanxingdui Forum held in September in Deyang, near the site, Ma Yanru, a researcher with the National Museum of China who led the gold relic restoration team, said that combined, the gold objects found at Sanxingdui contain around two kilograms of gold, more than at any other contemporary sites found in China. The techniques "represent the highest level in early years of precious metal processing in China," Ma said. She stressed that it is more compelling evidence that the Chinese civilisation had diverse origins.

The exhibition, titled "A Journey to Ancient Greece: Archaeological Explorations," features artefacts from the Bronze Age to the era of Alexander the Great (356-323 BCE). The 172 artefacts, which include nine replicas, have been lent by 31 Greek museums and cultural institutions. Besides Agamemnon's Mask, gold objects such as rosettes and palm leaves are an important part of the exhibition. However, the mask predates Agamemnon according to modern research. It more likely belonged to a king of Mycenae around 1550-1500 BCE than the legendary Agamemnon, who ruled some three centuries later, and who according to Homer's epic poem *The Iliad*, commanded the Greek forces at the Battle of Troy.

In a video address at the exhibition's launch on July 7, 2025, Li Xinwei, director of the Chinese School of Classical Studies at Athens, established in the Greek capital in 2024, said there was a similar trajectory of development of the Chinese and Greek civilisations from 5,000 years ago to the establishment of the unified imperial system in China in the 3rd century BCE and the Hellenistic era in Greece in the 4th century BCE.

"The cultural legacy of ancient Greece profoundly influenced subsequent civilisations across regions of the Eurasian continent. And this exhibition's panoramic presentation will inspire comparative reflections between Chinese and Greek civilisational traditions," he said.

Speaking to China News Service, Yang Yufei, an associate researcher at Sanxingdui Museum and the show's curator, expresses her views on how the shared passion for gold in ancient China, Greece and other major civilisations sheds light on both the similarities and differences of these early societies, and how it can promote cultural dialogue today.

China News Service: Why was Sanxingdui Museum chosen as the exhibition's first stop in China? What are the highlights?

Yang Yufei: This exhibition is the fourth held by the Greek Ministry of Culture in collaboration with China. We selected Sanxingdui Museum for the inaugural exhibition due to Sichuan's close cooperation with Greece in museology and archaeology in recent years.

Based on the existing collaboration

(Top) The Mask of Agamemnon, a gold funerary artefact from the Bronze Age unearthed in 1876 at Mycenae, Greece, is one of the most iconic discoveries in archaeology (Photo by VCG)

(Above) The gold mask of Sanxingdui, unearthed at the Sanxingdui Ruins site, is displayed at the Anhui Provincial Museum, Hefei, Anhui Province, October 25, 2025 (Photo by VCG)

between China's Palace Museum (also known as the Forbidden City) and Greece's Institute of Electronic Structure and Laser of the Foundation for Research and Technology-Hellas (IESL-FORTH), the China-Greece Belt-and-Road Joint Laboratory on Cultural Heritage Conservation Technology launched its Sanxingdui Workstation at the excavation site of the ritual area of the Sanxingdui Ruins in 2021.

In May 2025, a themed event titled "Ancient Shu and Ancient Greek Civilisations" was held at the Nea Smyrni Museum in Athens, where the Greek edition of China's cultural exchange project "Sanxingdui-Jinsha Message in a Bottle" was launched in front of distinguished guests including Konstantina Benisi, director of the Ephorate of Antiquities of Prehistoric and Classical Antiquities at the Greek Ministry of Culture, as well as Li Xinwei, director of the Institute for the Study of Ancient Chinese Civilisation. [The project invites people around the world to participate in activities promoting Sanxingdui, including short videos of Sanxingdui exhibitions, mystery boxes containing Sanxingdui cultural products and Instagram posts.]

From July to December 2025, the [current] exhibition called "A Journey to Ancient Greece" was held at Sanxingdui Museum. It showcases 172 precious artefacts unearthed in Greece [including nine replicas].

The Mycenae and Sanxingdui gold masks date from similar periods. They share commonalities while boasting distinct differences. At first, exhibiting a replica of the Mycenae gold mask seemed impossible due to scheduling conflicts. With the aim of showcasing the artefacts in tandem in an exhibition, our team exchanged multiple emails, offering information on Sanxingdui's gold masks, which explained in detail their shared characteristics. In the end, Greece's Ministry of Culture helped coordinate with heritage authorities in Mycenae, who allowed the replica's inclusion in this exhibition.

CNS: Why do the gold masks from Sanxingdui and Greece's Aegean Sea area share striking similarities?

YY: The coincidental use of gold for crafting masks in Sanxingdui and Mycenae – civilisations thousands of miles apart – reflects the similarity of artistic expression and aesthetic preferences among early humans. After all, who doesn't love things that glitter?

Even humans of the Paleolithic and Neolithic eras selected glittering stones and animal tusks as adornments. If there were precious metals available, they would use them to craft objects. This is why gold masks have been unearthed at numerous Eastern and Western archaeological sites beyond Sanxingdui and Mycenae, such as King Tutankhamun's tomb in Egypt, the Thājite Princess's tomb in Saudi Arabia and a grave in Uttar Pradesh, India.

Though Sanxingdui and the Aegean gold masks are strikingly similar, they also have many differences.

The Sanxingdui gold masks were unearthed in the ritual area of the capital city of the ancient Shu Kingdom, which dates to the late Shang Dynasty [1600-1046 BCE], and they are likely objects for ritual offering. The Mycenaean gold mask was unearthed at Grave Circle A at the ancient Aegean city of Mycenae,

Top: Visitors view a replica of the slab called Sandal-binder at the exhibition "A Journey to Ancient Greece: Archaeological Explorations" displayed at Sanxingdui Museum, Guanghan, Sichuan Province, July 27, 2025 (Photo by VCG)

Above: Visitors view the Bronze Sacred Tree at Sanxingdui Museum, Guanghan, Sichuan Province, October 5, 2025 (Photo by VCG)

dating to around the 16th century BCE. It was found covering the tomb owner's face, indicating that it is a funerary artefact.

In design, the Sanxingdui gold masks feature hollowed out eyebrows and eyes, with rather abstract facial features, while the Mycenaean mask boasts finely carved facial features, as well as detailed hair and eyebrows.

CNS: What else do Sanxingdui's artefacts have in common with those of ancient Greece?

YY: The commonalities between the ancient Shu and Greek civilisations include reverence for nature, which is in fact commonly shared by many great civilisations. They tended to transform elements observed in daily life into decorative motifs on artefacts.

These artefacts reflect how ancient Greeks and Sanxingdui people perceived nature, environment and life. As human societies grew increasingly complex, these things could gradually evolve into religious beliefs.

Furthermore, we can see in Sanxingdui and Mycenaean sculptures distinct artistic expressions of human figures from Eastern and Western civilisations. Sanxingdui's sculpture blends realism with exaggeration and deification, while Greek sculpture, from the Archaic period [800-500 BCE] to the Hellenistic age [323 BCE-30 CE], evolved from simple stylised forms into increasingly rich and vivid ones.

CNS: How can cultural relic exhibitions help Eastern and Western audiences understand the beauty of other civilisations?

YY: As the Sanxingdui and Jinsha Ruins [in Chengdu, dating back from the 12th-7th century BCE in the ancient Shu kingdom] sites are preparing for a joint application for UNESCO World Cultural Heritage status, we need to reach out to the world, continuously strengthening their global influence and our capabilities of cultural interpretation.

Visitors to Sanxingdui Museum do feel stunned by the artefacts there. But we can only take a very limited number of relics to display abroad. We can't show the giant bronze statue, nor the bronze sacred tree [centrepieces of the museum]. In the same way, precious artefacts in the West, like the Mycenaean gold mask, can't realistically be shown abroad. So we ought to continue to innovate exhibition technology which will allow us to present the beauty of cultural relics as much as we can.

Exchanges and mutual learning make civilisations richer and more colourful. The dialogue between Sanxingdui and ancient Greece is not just an encounter between the two civilisations, but a profound reflection on the origins and commonalities of human civilisations.

These ancient civilisations are great, not just in their uniqueness, but also in the coincidence of their similar choices. Even though people from the East and West have different cultural backgrounds, when they stand before the gold masks or the bronze sacred tree, they feel the same about the beauty of cultural artefacts.★

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Jiaohe Ruins

The Carved City

One of the world's most perfectly preserved settlements offers valuable insight into ancient urban planning, construction techniques and the vibrant religious and cultural exchanges along the Silk Road

By Li Jing and Wang Zhiwei

Aerial view of the Jiaohe Ruins (Photo by VCG)

In China, October begins with the National Day holiday, when people across the country celebrate the founding of the People's Republic of China in 1949. In 2025, October 1 brought an additional reason for festivity: the 70th anniversary of the founding of northwest China's Xinjiang Uygur Autonomous Region.

Ahead of the commemoration on September 24, Chinese President Xi Jinping led a central delegation to regional capital Urumqi to join representatives from all ethnic groups and walks of life at a grand gathering marking the occasion.

Over the past seven decades, Xinjiang has drawn on its rich natural and cultural resources to transform from a remote inland region into a vibrant modern hub.

Xinjiang's unique geography has endowed its cultural heritage with distinctive regional characteristics. Archaeological discoveries have greatly deepened understanding of its historical significance and its pivotal role along the ancient Silk Road which linked China and Europe.

Rich History

In 138 BCE, Zhang Qian, an envoy of the Han Dynasty (202 BCE-220 CE), was sent westward to explore what was then known as the Western Regions, roughly corresponding to today's Xinjiang and parts of Central Asia, paving the way for the legendary Silk Road.

One notable stop along this route was Jiaohe, located about 10 kilometres west of modern-day Turpan, around 200 kilometres southeast of Urumqi. During Zhang's time, this fortress city served as the capital of the ancient Jushi Kingdom, one of the 36 kingdoms of the Western Regions at that time.

With a history dating back more than 2,000 years, the Jiaohe Ruins rank among the world's largest, oldest and best-preserved ancient cities built from rammed earth. In 2014, the site was inscribed on the UNESCO World Heritage List as part of Silk Roads: the Routes Network of Chang'an-Tianshan Corridor, jointly submitted by China, Kazakhstan and Kyrgyzstan.

Jiaohe stands apart from other ancient cities because its structures were "carved" downward from the earth rather than built upward.

The city was created by excavating the ground to form standing walls and underground rooms. The removed earth was compacted to build above-ground structures. The upper-level rooms served as living spaces, while the underground ones provided shelter from the scorching summer heat and the cold winter winds.

According to Li Xiao, a professor at the Renmin University of China in Beijing and former director of the Turpan Regional Bureau of Cultural Relics, this construction style is unique worldwide.

From the earliest days of the Silk Road, Jiaohe was already an important trading centre between East and West. During the Tang Dynasty (618-907), it evolved into the administrative and military hub of Xinjiang which was under the jurisdiction and administration of the Tang Empire.

Most of the remaining structures date from the Tang period and the city's layout still reflects Tang-era urban design. At its peak, Jiaohe had a population of about 7,000, with 34 streets and lanes and over 1,300 houses, more than 700 of which are still relatively well-preserved.

By the mid-14th century, the collapse of the Yuan Dynasty (1271-1368) triggered widespread rebellion across the region, leaving Jiaohe abandoned. The city's political and economic influence faded, but thanks to its remote location and arid climate, Jiaohe escaped total destruction. It remains today a rare and remarkably intact example of an earthen "carved" city.

Situated at the southern foothills of the eastern Tianshan Mountains, Jiaohe stands on an elevated terrace about 30 metres above the riverbeds of two converging branches. Over time, the flowing waters carved out steep cliffs, creating natural defences so effective that the city required no man-made walls.

The entire site resembles the shape of a willow leaf, stretching roughly 1,650 metres from south to north and up to 300 metres at its widest point, covering an area of about 376,000 square metres.

Jiaohe is believed to have had only two gates, an unusual feature for a city of its size. The East Gate was cut directly into the cliff and was thus barely functional, while the South Gate served as the main entrance. Evidence shows it once had a wooden door that was lost to fire.

Visitors pray before the Big Buddhist Temple in ancient Jiaohe, Xinjiang Uygur Autonomous Region, June 24, 2025 (Photo by VCG)

A straight, 10-metre-wide central street runs north from the South Gate through the entire city, dividing it into two distinct zones: the western side housed commoners, while the eastern quarter was reserved for officials and troops.

The residences, built with the rammed-earth technique, featured walls up to 10 metres high and 12 metres thick. Most lacked windows, a defensive design that reflected the city's military considerations.

Viewed from above, the homes appear as walled compounds with hidden entrances. In the event of an attack, invaders could only stand atop the roofs, unable to locate doorways or points of entry.

Government offices occupied the city's central section. Just north of these buildings lies an ideal vantage point offering panoramic views of the entire site. The best time to visit is late afternoon, when the desert sun softens and long shadows play across the earthen walls.

East and West

At the crossroads of East and West, Jiaohe once witnessed the rise of Zoroastrianism and Manichaeism, both originating in ancient Persia. By the ninth century, Buddhism had become central to local religious life. Today, more than 50 Buddhist structures survive, attesting to the religion's flourishing presence here.

At the northern end of the main street stands the Great Monastery, the city's largest religious complex, covering 5,000 square metres. Further north lies an impressive stupa grove with 101 of Xinjiang's earliest stupas, dating back to the sixth century.

Beyond the city walls, expansive burial grounds stretch along the northern and western edges of the terrace.

According to Chen Aifeng, deputy director of the research institute Turpan Academy, Jiaohe has clear functional divisions. Its residential areas are in the south, burial grounds in the north and centrally located government offices. This layout resembles that of the Tang Dynasty capital Chang'an (now Xi'an in Northwest China's Shaanxi Province), echoing influences from the Central Plains, the cradle of Chinese civilisation.

However, when viewing the entire terrace, including the northern burial grounds and surrounding sections, the central area is actually reserved for monasteries and stupa groves. Jiaohe, therefore, also embodies a layout centered on religion.

This reveals a fundamental difference between Eastern and Western city planning in antiquity. In the West, the city's heart belonged to the gods, like Capitoline Hill in Rome and the Acropolis in Athens. In the East, it belonged to imperial power, as in Chang'an. Based on current archaeological findings, Jiaohe is the only known ancient city in China that integrates both Eastern and Western urban systems.

Its city layout and the diverse construction techniques of its buildings testify to the rich cultural exchange between Central China, the Western Regions and Central Asia.

From the late 19th century, explorers from Russia, Germany and other countries systematically looted numerous cultural sites in Turpan, including the Jiaohe Ruins. Countless relics, murals, manuscripts, Buddhist statues and wooden artefacts were taken overseas.

By the early 20th century, when Hungarian-British archaeologist Aurel Stein arrived, most of the major artefacts were already gone. He could only record the city's architectural layout and its "astonishing cliff-carved defence system" in *Serindia: Detailed Report of Explorations in Central Asia and Westernmost China*, a cornerstone of Silk Road archaeology.

Among the remaining treasures, the Human-Faced Terracotta Lamp stands out. Shaped from pottery into a cylinder, the lamp's top forms the face of an elderly man, his drooping brow and small eyes full of expression, his straight nose and gentle smile lending warmth to his features. A circular opening in his crown once held oil to fuel the flame.

Li Xiao recalled discovering the lamp in a temple well in 1994. According to him, it was no ordinary lamp but a luxury item likely used by nobles or the wealthy some 1,000 years ago.

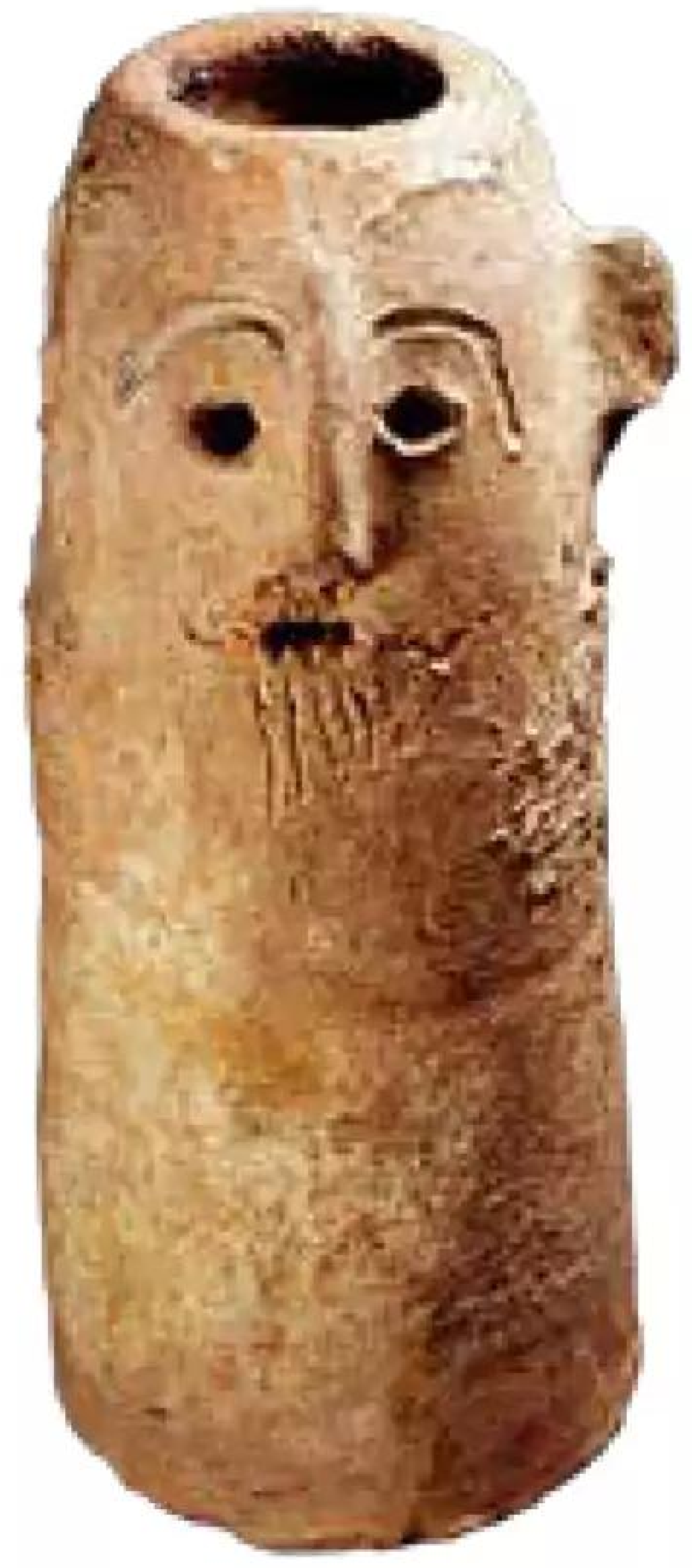
Over the centuries, desert winds have worn down Jiaohe's walls, temples and streets, while floodwaters eroded its cliffs, threatening the city's very survival.

In 1961, the Jiaohe Ruins were designated a national-level protected site. Beginning in 1993, over 100 archaeologists and historians from China and abroad joined an eight-year conservation and restoration project. Their efforts culminated with Jiaohe being inscribed as a UNESCO World Heritage Site in 2014.

In April 2025, Ya'er Lake Grottoes, part of the Jiaohe Ruins and once a monastery, opened to the public for the first time, enriching the site's exhibitions and visitor experience.

The grotto complex contains 22 caves from the fifth century, arranged in two tiers: the upper for meditation, the lower for living quarters. Inside are exquisite Buddhist murals and inscriptions in both Chinese and Sogdian, proof of deep cultural integration. After a year of restoration and digital upgrades, Cave 4 and Cave 7 are now open to visitors.

The digital restoration project uses AR technology to virtually recover the murals' faded colours and missing lines. By wearing AR glasses, visitors can experience in immersive detail the ancient beauty that once flowered in the heart of a vast desert.★



Human-Faced Terracotta Lamp (Photo by Zhang Yongbin)

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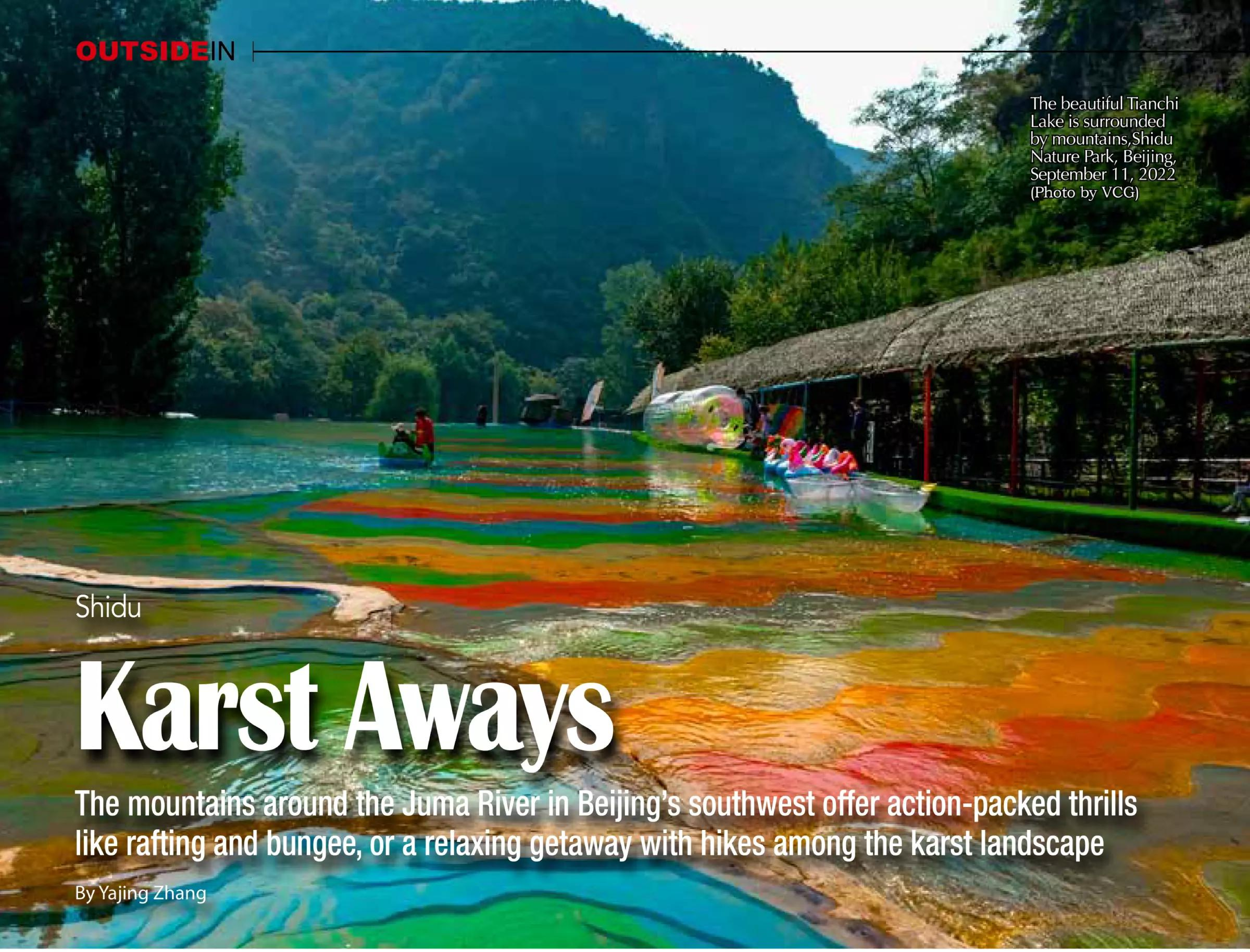


The beautiful Tianchi Lake is surrounded by mountains,Shidu Nature Park, Beijing, September 11, 2022 (Photo by VCG)

Shidu

Karst Aways

The mountains around the Juma River in Beijing's southwest offer action-packed thrills like rafting and bungee, or a relaxing getaway with hikes among the karst landscape

By Yajing Zhang

Life in Beijing can be tough. High pressure at work, high pressure for your kids to do well in school, and high pressure on all sides of your body as you squeeze into a rush hour subway car. So where can stressed out Beijingers find their refuge? Luckily for all of us, the mountains that ring the capital offer tranquility.

For many, the instinct is to go north from the city, towards the Great Wall. But unless you go in the depths of North China's grey-brown winter, you're likely to find crowds there too. Instead, head south into Fangshan District and give Shidu a visit.

Shidu, or Tenth Crossing, gets its name from the many crossings over the winding Juma River as it gently makes its way though a valley of sheer limestone cliffs. The area starts at Yidu, or "first crossing," and rather confusingly stretches a few dozen kilometres all the way to the 18th crossing.

While Shidu's etymology is obvious, the name of the Juma River – which literally translates as "refusing horse" – is less obvious. There are a few historical stories, in which the river is said to have formed a barrier to invading cavalry, either through its speed or through wooden stakes driven into the riverbed by defenders. A more plausible story is that it used to have the phonetically-similar name of "giant horse" river, a reference to it supposed speed – though little of that speed remains today.

Hidden Gem

A third name for the area comes not from the river but the peaks that surround it. The startling steepness of the mountains has earned the area the nickname "Guilin of the North," in reference to the pointed karst peaks that have made the Guangxi city a global tourist attraction.

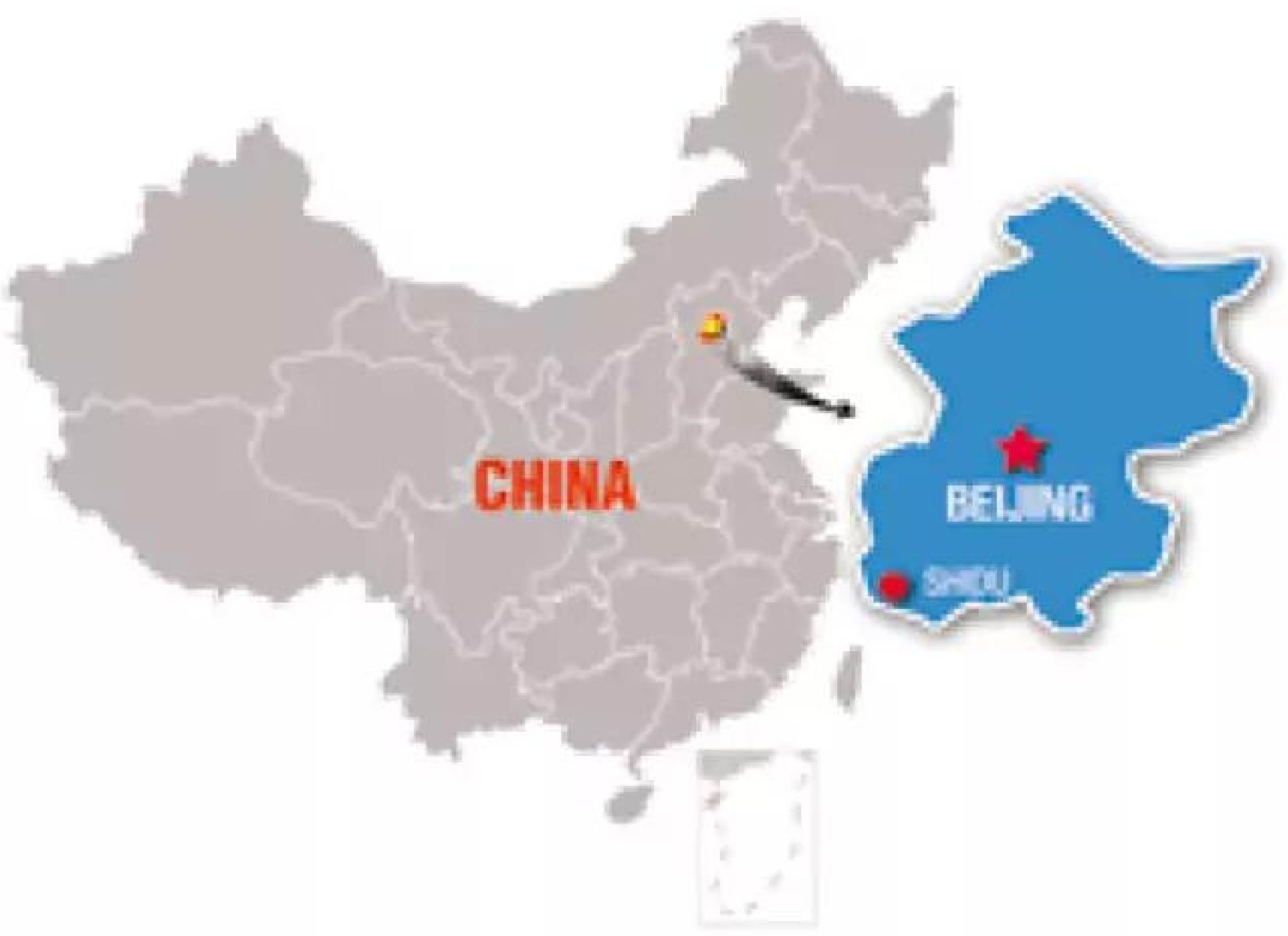
By comparison with Guilin, Shidu is a hidden gem, though it's far from untouched by the tourism industry. There are several scenic spots eager to sell you an entry ticket. One that's particularly worth a visit is Gushanzhai. After you stroll through the impressive gate and pass a gaggle of honking geese, you'll find a hiking trail up a mountain. You start off walking over dry stone riverbeds where mantises and dragonflies buzz, then you climb upwards through forests, finding stunning views of ancient rock formations and valley below. At one point, you scramble up a rocky slope and squeeze through a narrow crevice just a few feet across. Your prize for reaching the top is a cascading waterfall.

Another nearby scenic spot to soak in some natural beauty is Donghu Port. This spot offers mountain and waterfall views with a few extra flashy touches. These include a glass walkway (not for those afraid of heights), a cable car, and a raised manmade rafting section you can use to skip some of the walk down.

While Donghu Port and Gushanzhai are both relatively small – you could easily do one in the morning and the second in the evening – Yesanpo is another matter. Yesanpo scenic area isn't technically in Shidu, indeed it's not technically in Beijing at all, being located about an hour away just over the border in Baoding. The attraction is an almost perfect example of what modern Chinese countryside tourism can look like. Which is to say, it has kilometre after kilometre of well-maintained hiking tracks and steps, offering stunning views. You can raft down the river and enjoy the quiet flowing of the water. You can also ride in a UFO-shaped funicular to go up the mountain. As the raft passes through a cave, you're lit up with fluorescent lights in every shade. There's a long water ride on stilts that takes well over 10 minutes as you slide down from a mountain top to the riverside.

If you want to ramp up the flashiness all the way, you can check out Juma Paradise theme park, one of several in the area. Its claim to fame is its assertion that it was one of the first places in China to offer bungee jumping. Thrill seekers can fling themselves from one of two platforms that reach from a cliff with the river flowing below. For those who want a milder sort of thrill, the theme park offers a zipline, cliffside swings and the kind of kitschy fun you'd expect to find at a small rural theme park, for instance bumper cars.

The glass skywalk inside Shidu Nature Park, October 9, 2019 (Photo by VCG)



Pancakes and Chill

But to be honest, while Shidu is packed with attractions, attractions aren't really the attraction. One of the best things to do is simply to find a quiet spot along the river, find some hefty rocks suitable for perching on, and watch the Juma crawl past as the mountains loom all around. Get some snacks and drinks, maybe crack a book. Go for a paddle or a little dip, and just soak it up. Take a nap. Hope no one else sets up beside you with a Bluetooth speaker.

The area has many places to stay, mostly so-called *minsu* – bed and breakfast-type places usually run by a local family. One I've stayed in has the poetic name of Qushui Liushang, which literally means "meandering stream where cups float." Set around a small courtyard, the rooms come with up to several bedrooms, personal outdoor hot springs baths and a patio area. In the evening, the hosts can prepare a variety of cold dishes and skewers you can barbecue yourself. There's little better than a warm evening, some lamb on a stick, a cold beer and views of the mountains. Afterwards, you can fire up the automatic mahjong table each room comes equipped with.

As you'd expect, Shidu also has plenty of restaurants, and even a few coffee shops. There's even a brand-new Pizza Hut, though I don't recommend it. Most are what you'd expect from rural northern China – hearty portions and different varieties of filling pancakes to go with your rice. On our last visit we particularly enjoyed a satisfyingly crispy cornbread pancake that was perfect for mopping up leftover sauces. The local speciality is grilled rainbow trout, pulled fresh out of the Juma.

As with many places in the Beijing suburbs, while it's theoretically possible to travel by public bus, driving yourself is a better choice, both to cut down on your journey time and to make it easier to get between the sights and your hotel. Given that so many of the attractions revolve around water, Shidu is best experienced in the warmer months from May to September. However, hiking is a year-round activity. Go for a day trip, or stay a few days.★

Practicalities

Driving time from central Beijing is about two hours, while the public bus takes around three hours. Bus No.836 departs from Tianqiao in the city direct to Shidu. Ride share options are available.

Guesthouses and other accommodation can be booked through Chinese travel apps.

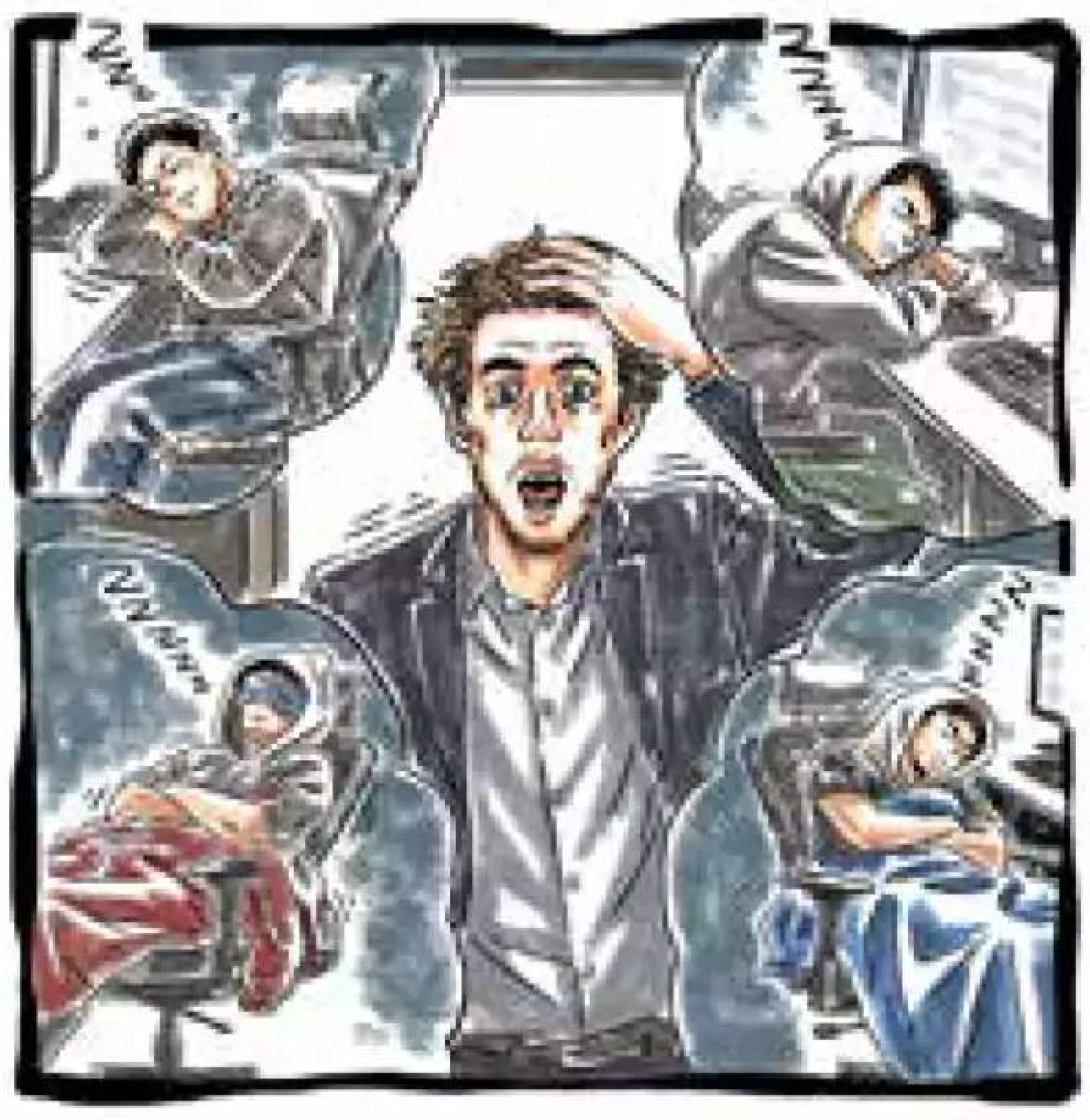
Pillows for Productivity

By Michael Jones

It was shortly after lunch when I entered the IT department office in search of some tech support. The room was much darker than usual, so my eyes took a while to adjust. As my vision returned, I noticed numerous changes across the room. Each of the office's ergonomic chairs was in full recline, in one corner a colleague's headphones had become eye masks, while a few colleagues were using jackets as quilts. Every single one of my colleagues was fast asleep. With arms as pillows, and hoods pulled over eyes, productivity itself appeared to be taking a power nap.

Chinese work days can be long, especially when compared to typical practices in Europe. A good friend of mine worked in a large energy company, the only foreigner. She observed with bafflement how her colleagues would regularly remain in work long after the official end of their shifts, but would compensate for this by taking exceptionally long lunch breaks, including using foldable camp beds and roll-up mattresses to ensure a good quality midday snooze. When she explained her willingness to work through the collective siesta, in order to leave work on time, her leadership were happy to support and oblige. However, she could not shake the feeling that what seemed logical to her, made her stand out as the person with odd behaviour.

In the rapid, dynamic, and busy world of China, taking a rest is a survival tool not a confession. Public spaces, like offices can easily transform into comfortable, consequence-free nap zones. Even large furniture shops can rapidly transform into a sea of horizontal couples, and dozing toddlers, test-driving mattresses in full view of other shoppers. However, while these practices remain common, they are not recommended for the shy or self-conscious, as more than one curious foreigner has discovered upon attempting a discreet test-snooze in a shop, only to wake and discover they have become part of the visual display.



Micro-dozing has become an urban superpower in modern China. From the heroic neck control of a standing sleeper on the subway, to heads bobbing in synchrony on the ferry. This level of public relaxation demonstrates an inherent trust in public order. There is a choreography of shared space in China, a social and community dimension even among strangers. However, this modern culture of public napping reflects the hectic nature of urban life, and the challenging consequences of China's rapid success and growth. Whether observing school children asleep at their desk, or workers dreaming in a park, it is clear, that hectic modern lives are not always compatible with getting a good night's sleep.

Nevertheless, the pandemic of poor sleep is a global phenomenon among industrialised economies. The solution that different cultures have adopted speaks volumes. Where the global West has embraced the cult of caffeine bravado, China has developed a "sleep then sprint" mentality. Some of this is pure pragmatism. Chinese commutes can be very long, and days can be very full. In this regard, taking naps is practical time management. Yet there is something deeper than pragmatism at play. Chinese society has discovered a comfort in crowds which still escapes people from many other nations. Privacy in China is not about physical space. By embracing a collective rhythm of shared post-lunch snoozing, the potential for social guilt is eliminated.

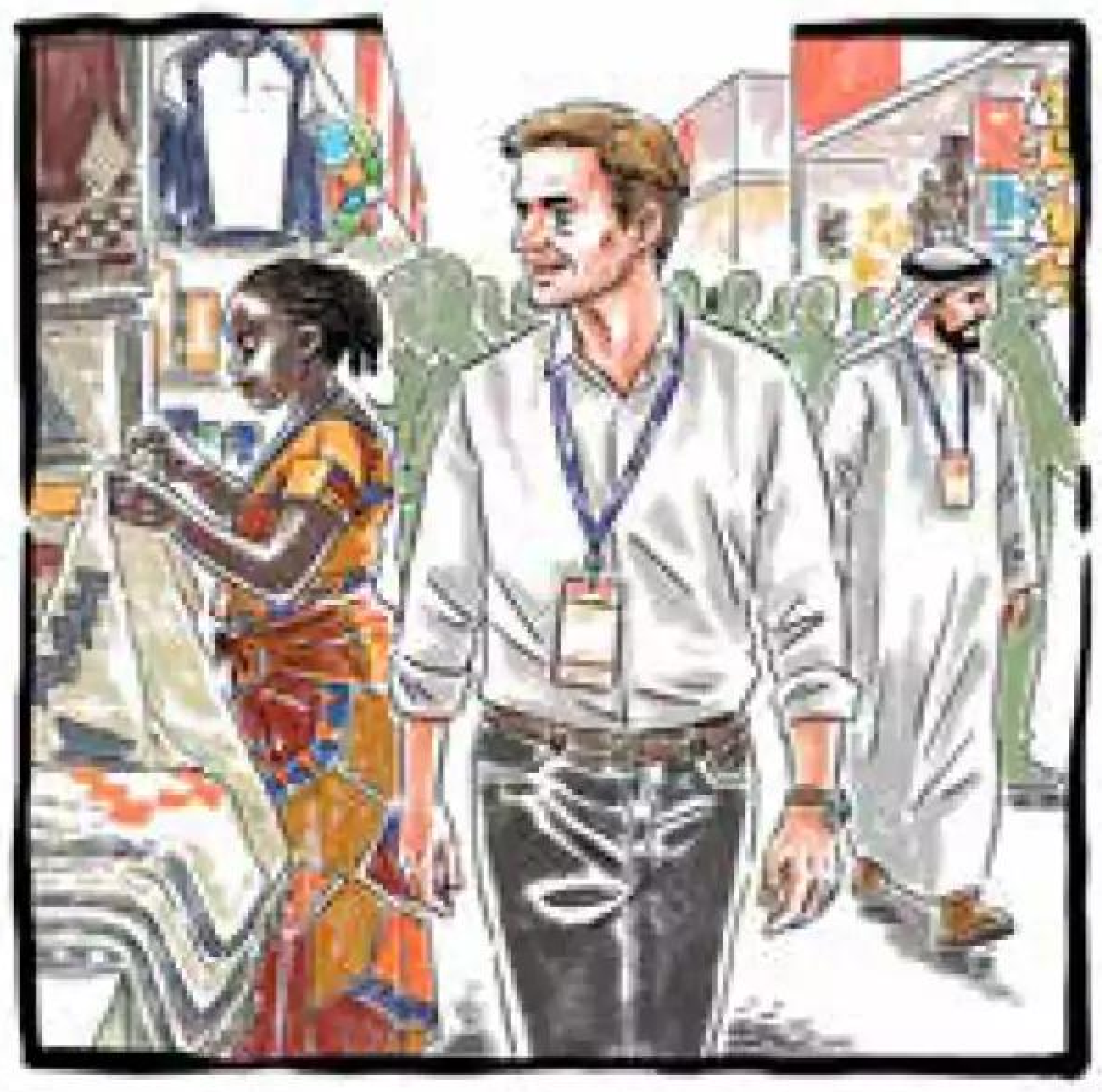
> Micro-dozing has become an urban superpower in modern China, from the heroic neck control of a standing sleeper on the subway, to heads bobbing in synchrony on the ferry

Unfortunately, there are some common risks associated with Chinese nap culture. Many people have popped to the bathroom after a post-lunch nap to see a perfect QWERTY imprinted upon their forehead. Others have placed their faith in the collective timekeeping of synced body clocks, only to wake up two hours after colleagues. My own most embarrassing moment was awaking to realise that I had mistaken a stranger's shoulder for a travel pillow. With unbelievable politeness, and perhaps an element of cultural uncertainty, the stranger had chosen to accept my foible and allowed me to snooze against them. As I woke and apologised profusely, they smiled at me, with a fascinating look that mixed pity, confusion, and annoyance.

For those international visitors who wish to embrace Chinese culture there are a few simple tips to learn. If you want to nap like a local, face away from colleagues, set two alarms, respect the quiet, apologise with a smile if you drool, offer your seat to elders before napping on public transport and never photograph sleeping strangers.★

All the World's Fare

By Joshua Dummer



After a decade of living in China, I should be used to things being on a vast scale. I've pushed my way through throngs of thousands to take a train during national holidays. The Beijing subway map has sprouted new lines every year I've lived here. I've flown over the Greater Bay Area and seen the homes of 80 million souls. I've been to that hotpot restaurant in Chongqing with 900 tables. While I am perhaps a little jaded, two days visiting the Canton Fair was still enough to make my head spin.

The fair, formally known as the China Import and Export Fair, is the country's oldest and biggest trade expo, which also makes it one of the largest in the world. Twice a year since 1957, merchants come from around the country to hawk their wares to buyers from around the globe. In its early days, the Canton Fair mainly showcased China's agricultural goods. But today, the fair presents China's manufacturing industry in all its bewildering diversity and depth.

Congolese women hunting for blankets rub shoulders with Israeli sportswear buyers and Russians on the hunt for toys queue for the toilet behind Arabs looking for baby strollers

You can get a taste of the experience without even going into the building. Just walk around outside and you'll get business cards and brochures waved in your face by those who didn't manage to get a booth, selling patio lights, umbrellas, pool cleaning gear and anything else. If you're a foreigner, you'll also meet strangers asking if you'll let them register as your assistant – getting in is easy as an overseas buyer but restricted for Chinese. But where there's a rule there's a way to get around it, as evidenced by the number of "buyer's assistants" handing out business cards for logistics firms.

The fair is split into three phases. The one we visited included clothing, fashion accessories, shoes, bags, furs, home textiles, carpets, health products, medical devices, office supplies, sports products, toys, maternity and baby products, food, pet products and traditional Chinese specialities.

You might think that because that list is so long, that there wouldn't be too many stalls for each category. You'd be underestimating the size of the purpose-built venue. My travelling companion was exclusively interested in home textiles, so they only visited those stalls. Even after two full days of walking the floor there were still sections they hadn't visited. Booths which sell every kind of product in their category – like the factories which could supply you an entire new wardrobe of polyester fashion – sit alongside those of startling specificity, like the several stalls I saw offering nothing but party balloons in every colour.

As I walked up and down the aisles, breathing in salesmen's cologne, I saw glimpses of the Chinese economy that is taking shape as well as the economy as its existed for decades. A special exhibition on smart healthcare tech had the innovative, cutting-edge products that often take pride of place in the domestic media – AI-powered robotic massagers and brain-computer interface technology. But the merchants selling shirts, teddy bears and cushion covers were competing on price and efficiency.

The diversity of products is mirrored in the attendees. Congolese women hunting for blankets rub shoulders with Israeli sportswear buyers and Russians on the hunt for toys queue for the toilet behind Arabs looking for baby strollers. However, some nationalities were conspicuous in their near-absence. During my visit, I only heard two American accents – perhaps a consequence of Trump's trade war.

One major missed opportunity for showing off is that the food at the Canton Fair is dreadful, despite being held in one of the greatest foodie cities on the planet. After you've worked up an appetite walking 15,000 steps in the morning, your options are either McDonald's (no fries) or airplane food. And that's not my disparaging description; the food is actually supplied by an airline catering firm.

That evening, finally enjoying decent grub at a congee hotpot restaurant (a mere 20 tables), I reflected on what made the experience so overwhelming. Taking the most jaded perspective, the Canton Fair is like visiting a big market grafted onto an international airport. But the experience is more than the event itself. It's the gigantic web of commerce that the fair represents. The factories all over China and their millions of workers. The countless trucks, trains, boats and planes that will ferry these goods to buyers in every nation. The army of entrepreneurs brokering deals at every step. The Canton Fair is global consumer culture in microcosm.★

GOODTASTE

Why Turtle Jelly Is and Isn't What You Think

By Mina Yan

When it comes to Chinese food, there are sometimes super simple dishes with elaborate names that have nothing to do with the actual ingredients. For example, phoenix claws don't contain any phoenixes. They're just a fancy name for chicken feet.

And when it comes to quirky flavours, Chinese snacks have that market cornered, too. You can find chips in any convenience shop, ranging from cucumber to spicy crawfish. Growing up in a Chinese family shopping at Asian supermarkets, you're just immune to the oddities on snack packages or usually chalk them up to another gimmicky name.

So for years, whenever I was feeling under the weather and needed to detox, my aunt would tell me to have some turtle jelly. And if you're wondering, there is no turtle in it – at least most of the time. But I'll get to that.

Turtle jelly is normally a sweet black gelatin made from a mix of herbs and spices, which really isn't *that* weird, since drinking hot Coca-Cola with ginger when you've got a cold is common, too.

However in traditional Chinese medicine (TCM), turtle jelly is believed to clear internal heat and detoxify the body, especially on a sweltering summer day or when you're feeling worn out. It's the kind of thing the older generation would gently push across the table, saying it would "bring your body back into balance."

As my turtle jelly usually comes in a can, I just thought of it as a grown-up dessert that also has health benefits. It doesn't taste great, per se, but calling it disgusting would be an exaggeration as well.

Its wobbly jelly texture might put off adults trying it for the first time, but for a kid, it was actually fun. On its own, the jelly is a bit bitter – imagine a gelatin made with herbal roots. But I've always had it as the beverage version, which is a bit on the sweet side, or drizzled with honey to cut through the bitterness. It's almost like a palate cleanser.

But unlike with phoenix claws, the gelatin in traditional turtle jelly, called *guilingao*, actually comes from the bottom shells of turtles. They are slow-cooked for hours to get the right blend and texture.

Now, before anyone calls PETA, turtle jelly is never made from sea turtles. In fact, most versions today are completely turtle-free. The TCM properties and taste are derived from herbs and roots alone. But when you do encounter the pricier versions that contain actual turtle, they're made with farmed softshell turtles – the same kind sold in supermarkets.

So the dessert drink I had growing up turned out to be a bit more than just a funny name. These days, you don't even need to know anything about TCM to enjoy some. You can find bottled turtle jelly drinks alongside other wellness beverages in supermarkets all over China. They've made this ancient remedy accessible, offering a convenient, ready-to-drink version of that classic, complex flavour. It's interesting to see how ancient health practices still live on in the daily lives of young people, and how they have adapted to fit our modern lifestyles.★

REALCHINESE

qū mèi

祛魅

qumei

disenchanted

People are always curious about how pop stars look offstage. But when they finally see a celebrity without makeup, the magic can fade in an instant. In Chinese, this feeling is called *qumei*, which literally means "disenchanted."

"To disenchant" was first used by German sociologist Max Weber to describe the process of stripping religion of its mystery. In Chinese, however, *qumei* has taken on a broader meaning. It refers to the moment when someone's idealised image of a person or thing shatters.

It's similar to another popular Chinese phrase *dapo lüjing*, which literally means "break the filter." People tend to see others through a kind of beauty filter from afar. But as they get closer and see the real details, that filter breaks.

For example, people often say that good friends made in online games may quickly fall out if they meet offline. In the virtual world, players project their idealised feelings onto each other or even onto their game characters. But those illusions can easily crumble in real life.

Such illusions also stem from stereotypes about certain professions or groups, like pop stars or police officers. When someone from those groups doesn't live up to the ideal, the collective "filter" breaks. That is why China's National Radio and Television Administration recently urged film and TV producers to focus on content rather than relying on idols. Audiences, they noted, have long been disenchanted with celebrities who lack acting skill.★

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